Pioneer sound.vision.soul

Service Manual

ORDER NO.
ARP3185

PLASMA DISPLAY

PDP-504PG

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	Remarks
	PDP-504PG		
TLDFR	○	AC110 - 240V	

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Remarks
PDP-504PE/ WYVI6	ARP3176	SAFETY INFORMATION, EXPLODED VIEWS AND PARTS LIST , BLOCK DIAGRAM, PCB PARTS LIST, ADJUSTMENT, IC INFORMATION etc.

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
©PIONEER CORPORATION 2003

T – ZZY DEC. 2003 Printed in Japan

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on product are used for disassembly.*
● *Reference Nos. indicate the pages and Nos. in the service manual for the base model.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 → 56 x 10^1 → 561 ..... RD1/4PU 5 6 1 J
47k → 47 x 10^3 → 473 ..... RD1/4PU 4 7 3 J
0.5 → R50 ..... RN2H R 5 0 K
1 → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k → 562 x 10^1 → 5621 ..... RN1/4PC 5 6 2 1 F

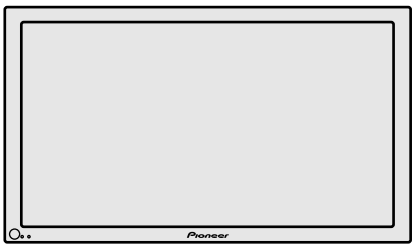
■ CONTRAST TABLE

PDP-504PG/TLDFR and PDP-504PE/WYVI6 are constructed the same except for the following :

Ref. No.	Mark	Symbol and Description	Part No.		Remarks
			PDP-504PE WYVI6	PDP-504PG TLDFR	
		PACKING			
P9 - 2	⚠	Power Cord	ADG1214	Not used	
P9 - 7	NSP	Warranty Card	ARY1114	Not used	
P9 - 14		Upper Carton (504PE)	AHD3203	Not used	
P9 - 14		Upper Carton (504PG)	Not used	AHD3211	
P9 - 15		Vinyl Bag	AHG1310	Not used	
		REAR SECTION			
P19 - 3	NSP	Name Label (504PE)	AAL2488	Not used	
P19 - 3	NSP	Name Label (504PG)	Not used	AAL2508	

Pioneer sound.vision.soul

Service Manual



PDP-504PU

ORDER NO.
ARP3176

PLASMA DISPLAY

PDP-504PU
PDP-504PE
PRO-504PU

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PDP-504PU	TUCK	AC110 - 240V	
PDP-504PE	WYVI6	AC220 - 240V	
PDP-504PE	WYVI6XK	AC220 - 240V	
PRO-504PU	KUC	AC120V	

For details, refer to "Important symbols for good services".

Confirm it

Serial No.

○○**WYVI6** : □□**SS**######△△

○○**WYVI6XK** : □□**UK**######△△

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
ⓒ**PIONEER CORPORATION 2002**

T-ZZY OCT. 2003 printed in Japan

SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

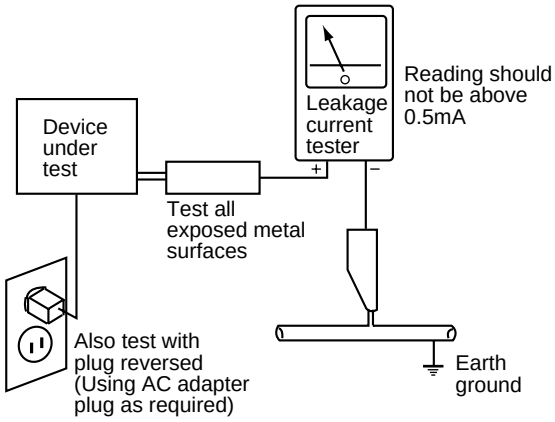
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - When the front case is removed, infrared ray is radiated and may disturb reception of the remote control unit.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 0.3MΩ and a maximum resistor reading of 5MΩ. Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
+
–
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

■Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. AC Power Cord
2. AC Inlet with Filter
3. Power Switch (S1)
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

■High Voltage Generating Point

The places where voltage is 100V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.

1. SW POWER SUPPLY Unit..... (223V)
2. 50 X DRIVE Assy .....(–230V to 223V)
3. 50 Y DRIVE Assy .....(353V)
4. 50 SCAN (A) Assy .....(353V)
5. 50 SCAN (B) Assy .....(353V)
6. X CONNECTOR AAssy ..... (–230V to 223V)
7. X CONNECTOR B Assy ..... (–230V to 223V)

: Part is Charged Section.

: Part is the High Voltage Generating Points other than the Charged Section.

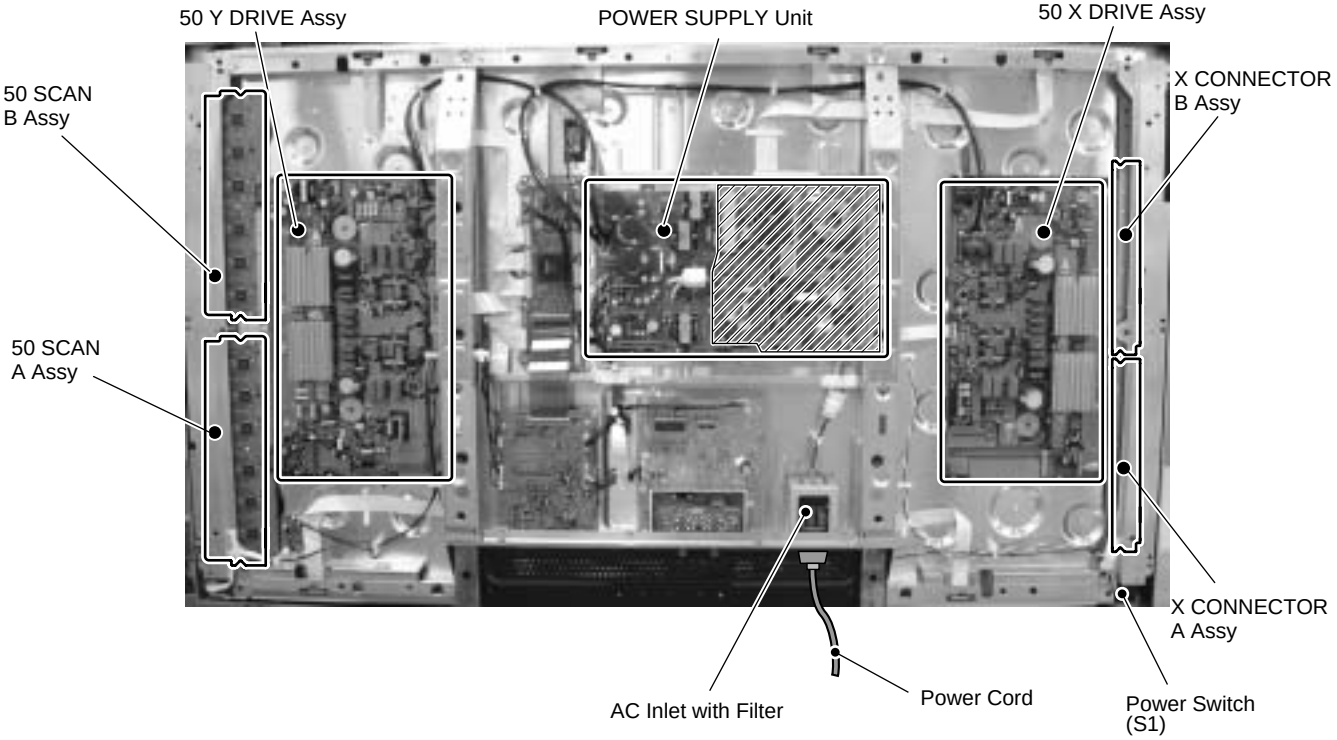


Fig.1 Charged Section and High Voltage Generating Point (Rear View)

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

CONTENTS

SAFETY INFORMATION 2
1. SPECIFICATIONS 7
2. EXPLODED VIEWS AND PARTS LIST 8
2.1 PACKING 8
2.2 CHASSIS SECTION (1) 10
2.3 CHASSIS SECTION (2) 12
2.4 FLAME SECTION 14
2.5 MULTI BASE SECTION 16
2.6 REAR SECTION 18
2.7 FRONT PANEL SECTION 20
2.8 PANEL CHASSIS (50) Assy (AWU1081) 21
2.9 PDP SERVICE Assy (AWU1080) 21
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM (For SCHEMATIC DIAGRAM, Refer to ARP3177) 22
3.1 BLOCK DIAGRAM 22
3.1.1 OVERALL BLOCK DIAGRAM 22
3.1.2 50 Y DRIVE ASSY 24
3.1.3 50 X DRIVE ASSY 25
3.1.4 PANEL IF ASSY 26
3.1.5 DIGITAL VIDEO ASSY 31
3.1.6 HD AUDIO AMP ASSY 33
3.2 WAVEFORMS 34
4. PCB CONNECTION DIAGRAM (Refer to ARP3177)
5. PCB PARTS LIST 39
6. ADJUSTMENT 47
6.1 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED 47
6.2 COMMAND 47
6.2.1 RS232C COMMAND 47
7. GENERAL INFORMATION 54
7.1 DIAGNOSIS 54
7.1.1 PCB LOCATION 54
7.1.2 DIAGNOSIS OF SHUTDOWN/POWER-DOWN INDICATED BY LEDS 55
7.1.3 DIAGNOSIS WITH THE AID OF FACTORY MODE 60
7.1.4 TROUBLE SHOOTING 62
7.1.5 CANCELING DETECTION BY THE TRAP SWITCH 63
7.1.6 OPERATION WHEN THE MEDIA RECIVER IS NOT CONNECTED 64
7.1.7 TEMPERATURE-COMPENSATION FUNCTION OF THE DRIVE-SYSTEM VOLTAGE 64
7.1.8 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM 65
7.1.9 BACKING UP THE ADJUSTMENT VALUES FOR THE MAIN UNIT 66
7.1.10 DISASSEMBLY 68
7.2 IC INFORMATION 71
8. PANEL FACILITIES AND SPECIFICATIONS 99

1. SPECIFICATIONS

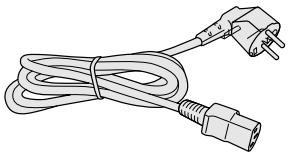
50" Plasma Display

Item	Model: PDP-504PU	Model: PDP-504PE
Number of Pixels	1280 x 768 pixels	1280 x 768 pixels
Audio Amplifier	13 W + 13 W (1kHz, 10%, 8Ω)	13 W + 13 W (1kHz, 10%, 8Ω)
Surround System	SRS/FOCUS/TruBass	SRS/FOCUS/TruBass
Power Requirement	110-240V AC,50/60Hz,363W (0.3W Standby,120V)	220-240V AC,50/60Hz,352W (0.5W Standby)
Dimensions	1270(W) x 737 (H) x 98 (D) mm (50 (W)x 29 (H)x 3 7/8 (D)inches)	1270(W) x 737 (H) x 98 (D) mm
Weight	38 kg (83.8 lbs.)	38 kg (83.8 lbs.)

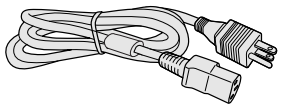
Item	Model: PRO-504PU
Number of Pixels	1280 x 768 pixels
Audio Amplifier	13 W + 13 W (1kHz, 10%, 8Ω)
Surround System	SRS/FOCUS/TruBass
Power Requirement	120V AC,60Hz,363W (0.3W Standby)
Dimensions	1270(W) x 737 (H) x 98 (D) mm (50 (W)x 29 (H)x 3 7/8 (D)inches)
Weight	38 kg (83.8 lbs.)

• Accessories

Power Cord

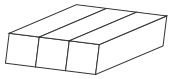


(PDP-504PE: ADG1214)



(PDP-504PU: ADG1215)
(PRO-504PU: ADG1215)

Speaker Cushion x1
(AEB1384)

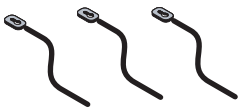


(Except PRO-504PU)

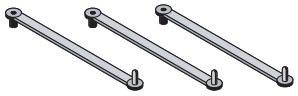
Wiping Cloth x1
(AED1208)

Binder Assy (AEC1908)

• Bead Bands x3



• Speed Clamp x3



Ferrite Core
(ATX1039)

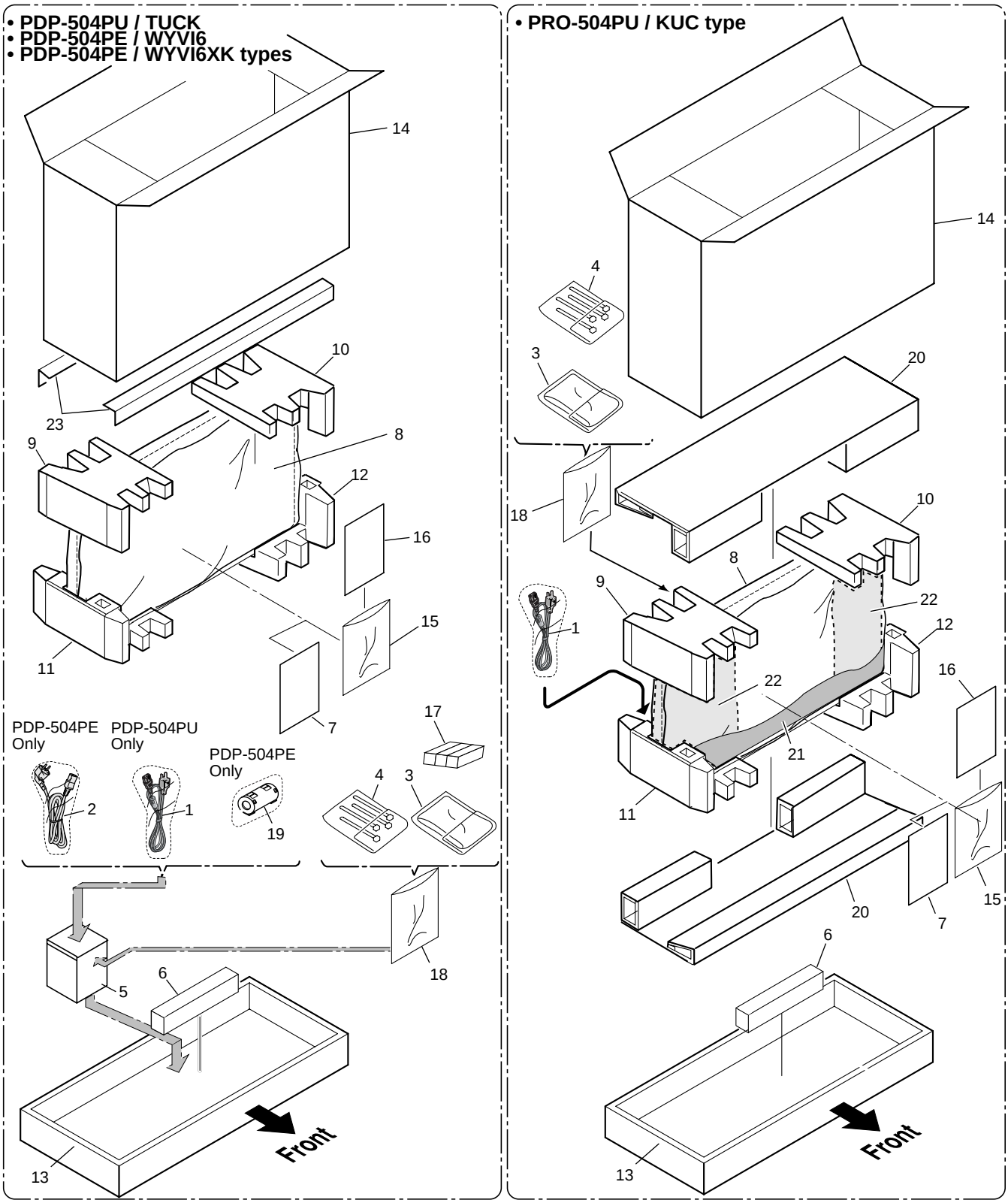
• Cable Tie

(PDP-504PE only)

2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING



PACKING Parts List

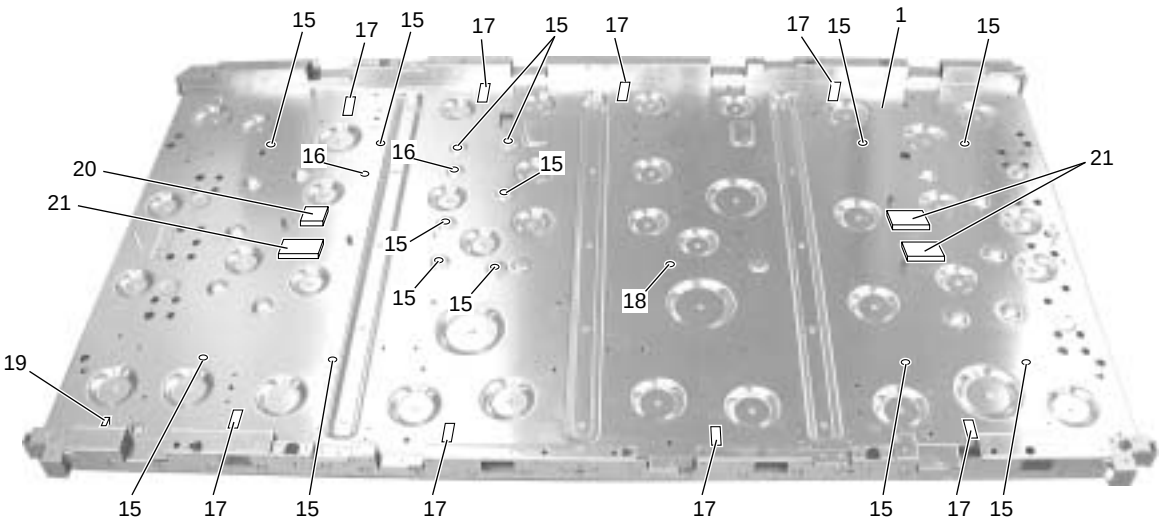
Mark	No.	Description	Part No.
⚠	1	Power Cord	See Contrast table (2)
⚠	2	Power Cord	See Contrast table (2)
	3	Wiping Cloth	AED1208
	4	Binder Assy	AEC1908
	5	Code Case	See Contrast table (2)
	6	Center Pad (50)	AHA2335
NSP	7	Warranty Card	See Contrast table (2)
	8	Mirror Mat	See Contrast table (2)
	9	Pad (PP T- L)	AHA2315
	10	Pad (PP T- R)	AHA2316
	11	Pad (PP B- L)	AHA2343
	12	Pad (PP B- R)	AHA2344
	13	Carton (50)	See Contrast table (2)
	14	Upper Carton (50)	See Contrast table (2)
	15	Vinyl Bag	AHG1310
	16	Caution Card	ARM1232
	17	Speaker Cushion	See Contrast table (2)
	18	Vinyl Bag S	See Contrast table (2)
	19	Ferrite Core	See Contrast table (2)
	20	Inner Carton	See Contrast table (2)
	21	Polyethirene Sheet	See Contrast table (2)
	22	Paper	See Contrast table (2)
	23	Sub Carton	See Contrast table (2)

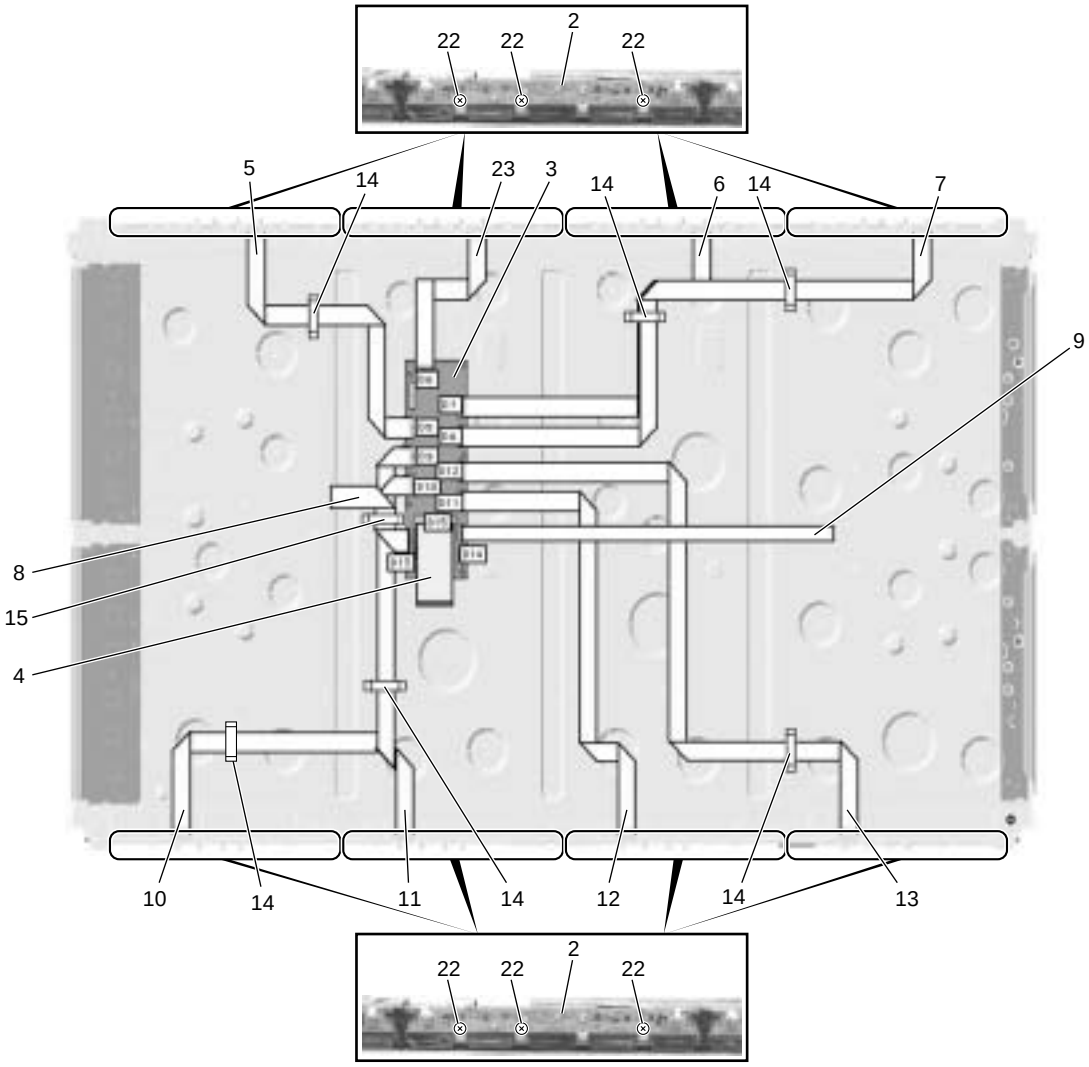
(2) CONTRAST TABLE

PDP-504PU/ TUCK, PDP-504PE/ WYVI6, PDP-504PE/ WYVI6XK and PRO-504PU/ KUC are constructed the same except for the following :

Mark	No.	Symbol and Description	PDP-504PU TUCK	PDP-504PE WYVI6	PDP-504PE WYVI6XK	PRO-504PU KUC
⚠	1	Power Cord	ADG1215	Not used	Not used	ADG1215
⚠	2	Power Cord	Not used	ADG1214	ADG1214	Not used
	5	Code Case	AHC1041	AHC1041	AHC1049	Not used
NSP	7	Warranty Card	ARY1138	ARY1114	ARY1114	ARY1134
	8	Mirror Mat	AHG1284	AHG1284	AHG1327	AHG1284
	13	Carton (50)	AHD3177	AHD3177	Not used	Not used
	13	Carton (50)	Not used	Not used	AHD3191	Not used
	13	Carton (50EL)	Not used	Not used	Not used	AHD3222
	14	Upper Carton (50PU)	AHD3178	Not used	Not used	Not used
	14	Upper Carton (504PE)	Not used	AHD3203	Not used	Not used
	14	Upper Carton (50)	Not used	Not used	AHD3190	Not used
	14	Upper Carton (50EL)	Not used	Not used	Not used	AHD3223
	17	Speaker Cushion	AEB1384	AEB1384	AEB1384	Not used
	18	Vinyl Bag S	AHG1338	AHG1338	Not used	AHG1338
	19	Ferrite Core	Not used	ATX1039	ATX1039	Not used
	20	Inner Carton	Not used	Not used	Not used	AHB1251
	21	Polyethirene Sheet	Not used	Not used	Not used	AHG1341
	22	Paper	Not used	Not used	Not used	AHG1343
	23	Sub Carton	AHB1248	AHB1248	AHB1248	Not used

2.2 CHASSIS SECTION (1)

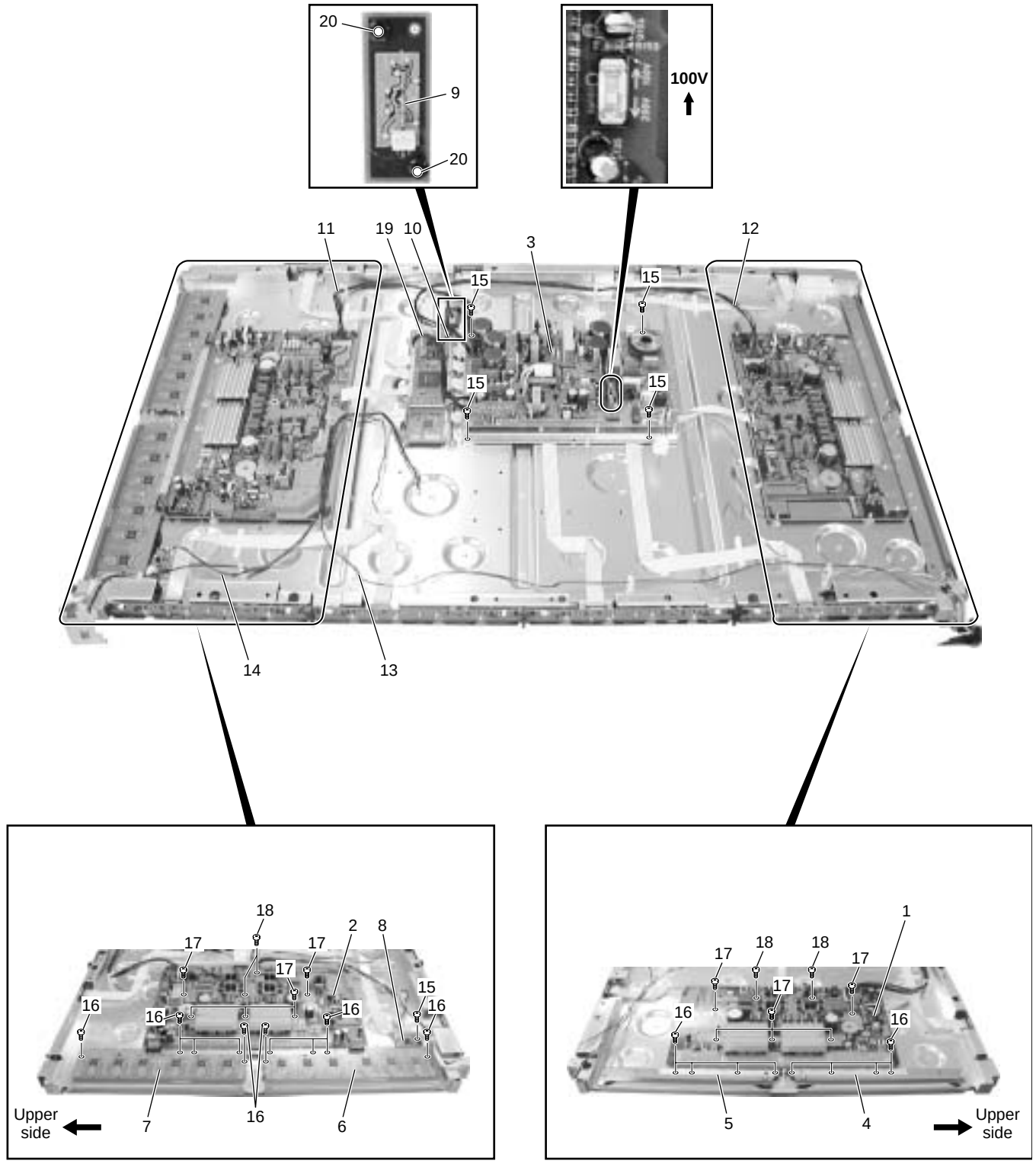




CHASSIS SECTION (1) Parts List

Mark	No.	Description	Part No.
NSP	1	P.Chassis (50) Assy	AWU1081
NSP	2	50 ADDRESS Assy	AWZ6839
	3	DIGITAL VIDEO Assy	AWV2070
	4	FPC (114P)	ADY1081
	5	Flexible Cable (J201)	ADD1228
	6	Flexible Cable (J203)	ADD1230
	7	Flexible Cable (J204)	ADD1231
	8	Flexible Cable (J209)	ADD1236
	9	Flexible Cable (J210)	ADD1237
	10	Flexible Cable (J205)	ADD1232
	11	Flexible Cable (J206)	ADD1233
	12	Flexible Cable (J207)	ADD1234
	13	Flexible Cable (J208)	ADD1235
	14	Flat Clamp	AEC1879
	15	PCB Spacer	AEC1941
	16	PCB Support	AEC1938
	17	Wire Saddle	AEC1745
	18	PCB Spacer	AEC1947
	19	Wire Clip	AEC1948
	20	Drive Siricon Sheet	AEH1066
	21	Drive Siricon Sheet	AEH1065
	22	Screw	VBB30P080FNI
	23	Flexible Cable (J202)	ADD1229

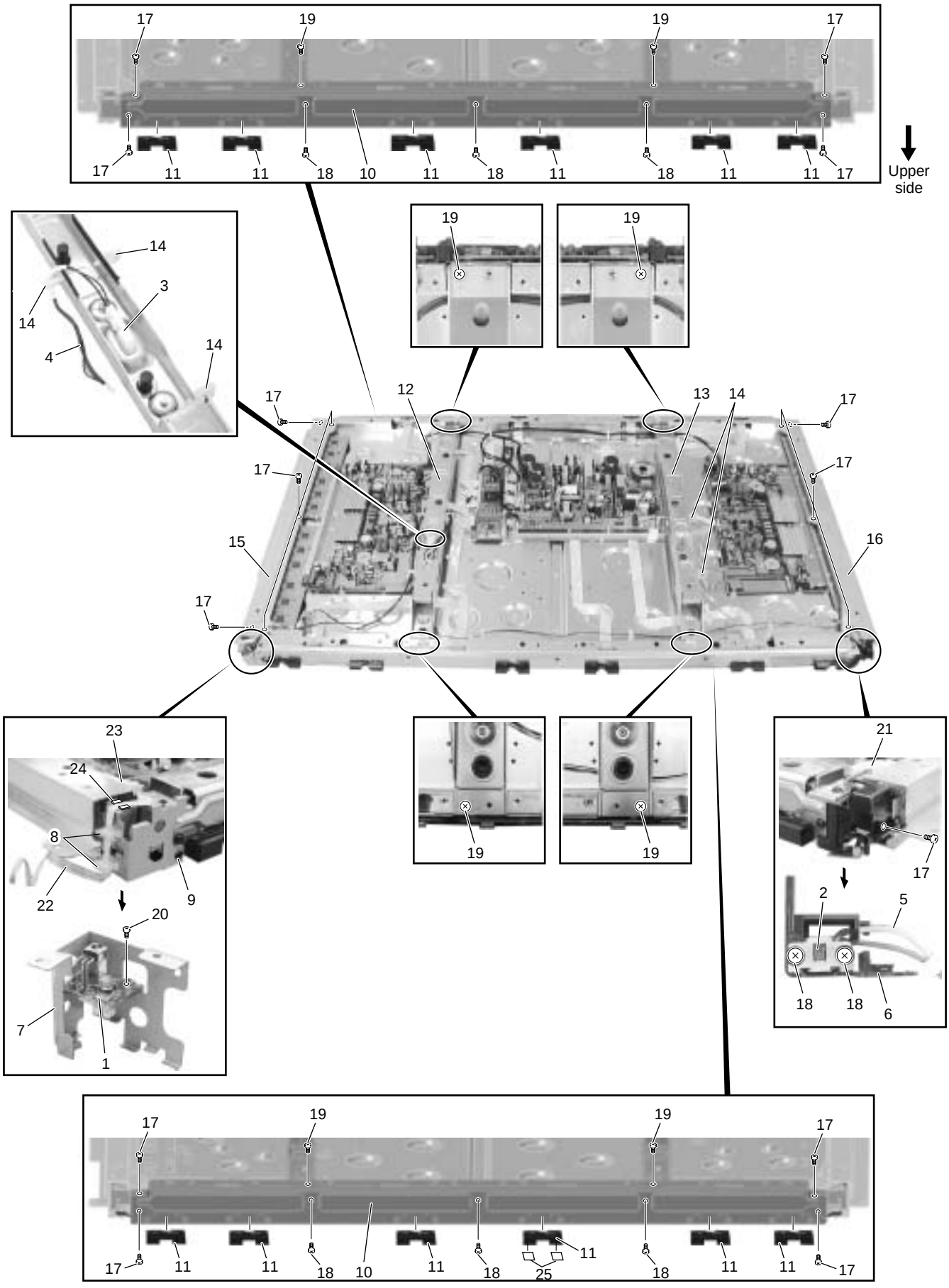
2.3 CHASSIS SECTION (2)



CHASSIS SECTION (2) Parts List

Mark	No.	Description	Part No.
	1	50 X DRIVE Assy	AWZ6808
	2	50 Y DRIVE Assy	AWV2035
⚠	3	POWER SUPPLY Unit	AXY1068
NSP	4	X CONNECTOR A Assy	AWZ6811
NSP	5	X CONNECTOR B Assy	AWZ6812
NSP	6	50 SCAN A Assy	AWZ6809
NSP	7	50 SCAN B Assy	AWZ6810
	8	KEY CONTROL Assy	AWZ6789
	9	PANEL SENSOR Assy	AWZ6795
	10	3P Housing Wire (J109)	ADX2847
	11	11P Housing Wire (J102)	ADX2853
	12	12P Housing Wire(J103)	ADX2854
	13	3P Housing Wire (J108)	ADX2857
	14	Wire B (J106)	ADX2855
	15	Screw	ABZ30P060FMC
	16	Screw	PMB30P060FNI
	17	Screw	VBB30P080FNI
	18	Screw	PMB40P080FZK
	19	Wire A (J101)	ADX2839
	20	Nyron Rivet	AEC1671

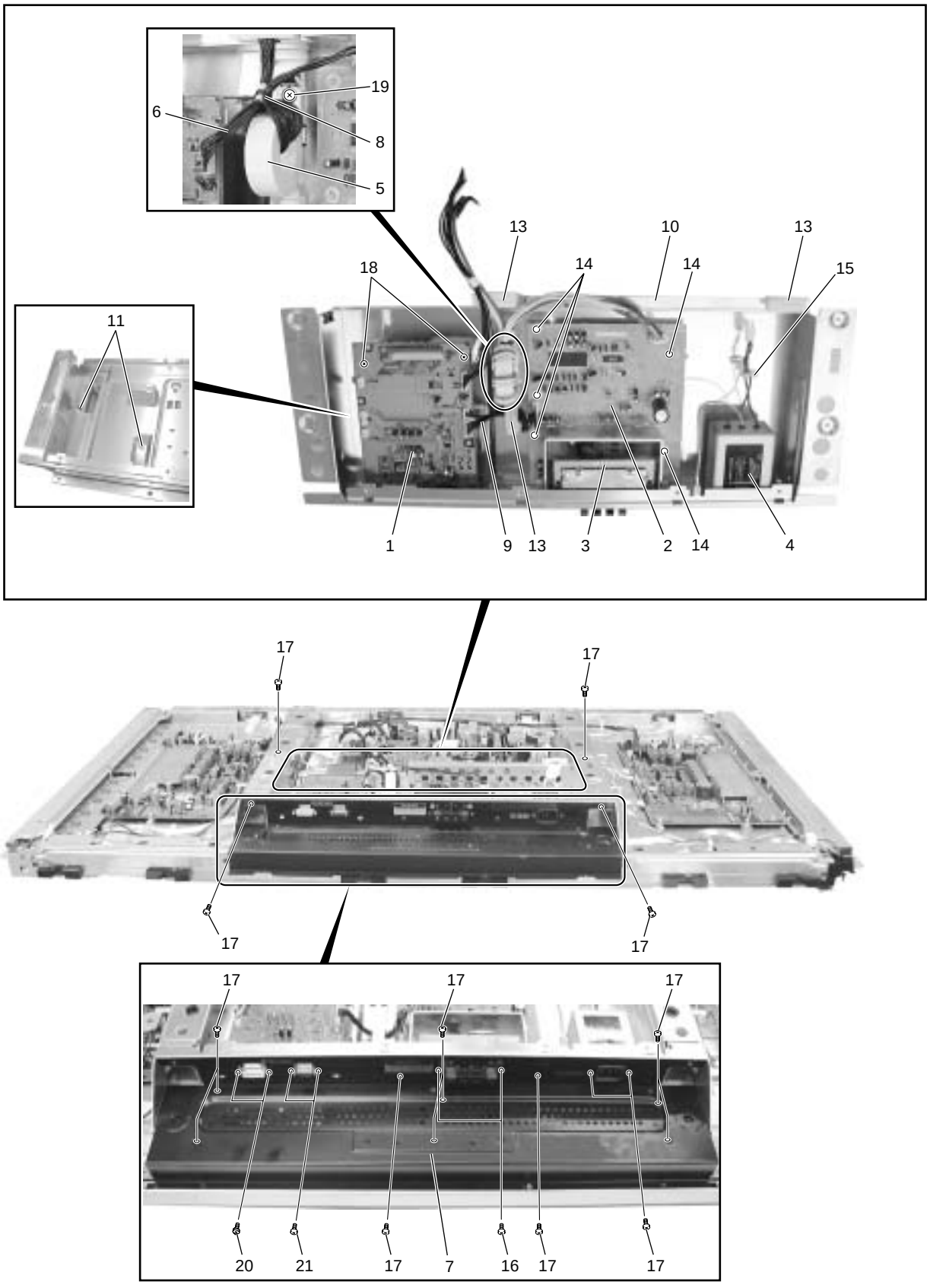
2.4 FLAME SECTION



FLAME SECTION Parts Liat

Mark	No.	Description	Part No.
	1	PANEL IR Assy	AWZ6790
⚠	2	Power Switch (S1)	ASG1092
	3	Power Switch (S2)	ASG1089
	4	3P Housing Wire (J107)	ADX2856
	5	Housing Wire (50) (J110)	ADX2858
	6	Switch Holder	AMR3349
NSP	7	IR Holder	ANG2551
	8	Wire Saddle	AEC1948
	9	Nyron Rivet	AEC1671
NSP	10	Front Chassis H (50)	ANA1733
	11	Front Spacer	AMR3369
	12	Sub Frame L Assy (50P)	ANG2638
	13	Sub Frame R Assy (50P)	ANG2561
	14	Edging Saddle	AEC1745
	15	Front Chassis VL Assy (50)	ANA1765
	16	Front Chassis VR Assy (50)	ANA1766
	17	Screw	AMZ30P060FZK
	18	Screw	APZ30P080FZK
	19	Screw	AMZ30P080FMC
	20	Screw	ABZ30P060FMC
	21	Flat Clamp	AEC1884
	22	Flexible Cable (J211)	ADD1225
	23	Flat Clamp	AEC1879
	24	Gasket	ANK1725
	25	Spacer	AEB1397

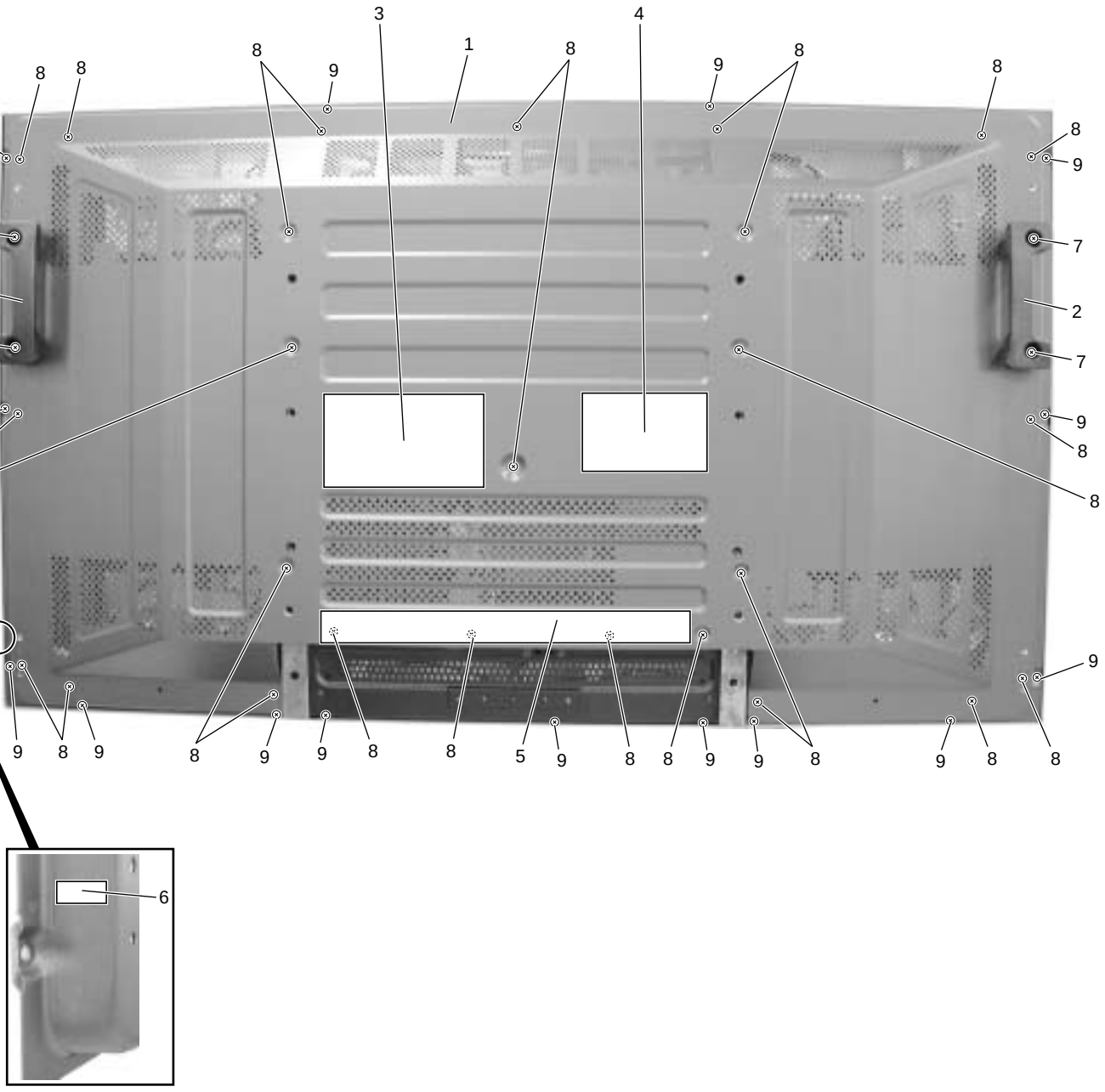
2.5 MULTI BASE SECTION



MULTI BASE SECTION Parts List

Mark	No.	Description	Part No.
	1	PANEL IF Assy	AWZ6786
	2	HD AUDIO AMP Assy	AWZ6834
	3	HD SP TERMINAL Assy	AWZ6792
⚠	4	AC Inlet	AKP1244
	5	Toroidal Core	ATX1042
	6	Wire C (J104)	ADX2879
	7	Under Cover Assy	ANG2589
	8	Nyron Binder	AEC-093
	9	13P Housing Wire (J105)	ADX2843
	10	Multi Base Assy (P)	ANA1718
	11	Locking Card Spacer	AEC1940
	12	Edge Saddle	AEC1946
	13	Clamp	AEC1884
	14	PCB Spacer	AEC1941
	15	Niplocker	BEC1136
	16	Screw	APZ30P080FZK
	17	Screw	AMZ30P060FZK
	18	Screw	PMB30P060FNI
	19	Screw	ABA1294
	20	Hexagon Head Screw	BBA1051
	21	Screw	PMZ26P060FZK

2.6 REAR SECTION



REAR SECTION Parts List

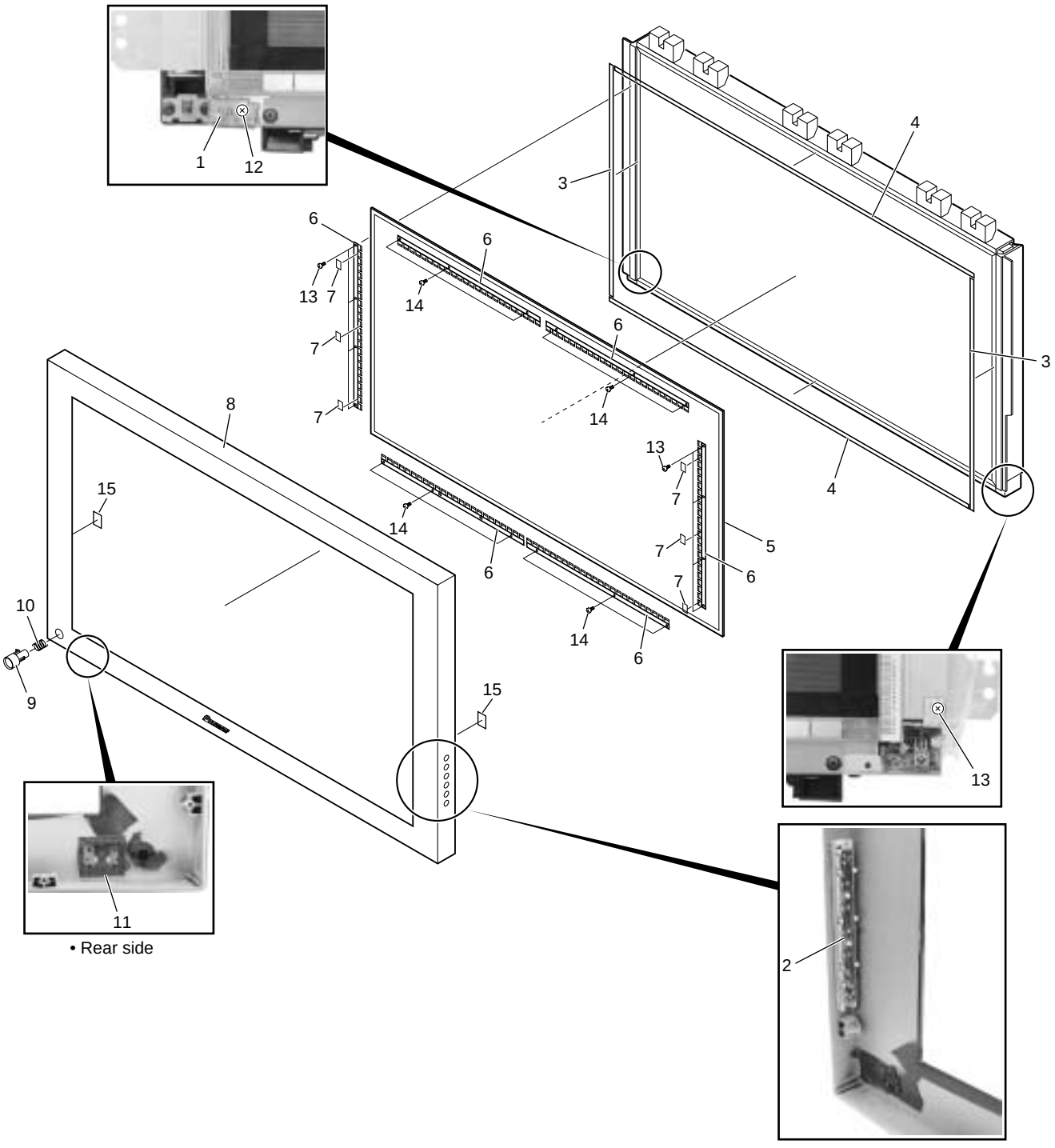
Mark	No.	Description	Part No.
	1	Rear Case (504P)	ANE1614
	2	Grip	AMR3380
NSP	3	Name Label	See Contrast table (2)
	4	Caution Label	See Contrast table (2)
	5	Terminal Label	See Contrast table (2)
	6	Disply Label	AAX2836
	7	Screw	PMB50P120FZK
	8	Screw	AMZ30P060FZK
	9	Screw	ABZ30P100FZK

(2) CONTRAST TABLE

PDP-504PU/ TUCK, PDP-504PE/ WYVI6, PDP-504PE/ WYVI6XK and PRO-504PU/ KUC are constructed the same except for the following :

Mark	No.	Symbol and Description	PDP-504PU TUCK	PDP-504PE WYVI6	PDP-504PE WYVI6XK	PRO-504PU KUC
NSP	3	Name Label	AAL2469	AAL2488	AAL2481	AAL2500
	4	Caution Label	AAX3007	AAX3007	AAX3005	AAX3007
	5	Terminal Label	AAX2997	AAX2998	AAX3006	AAX2997

2.7 FRONT PANEL SECTION



• Rear side

FRONT PANEL SECTION Parts List

Mark	No.	Description	Part No.
	1	PANEL LED Assy	AWZ6787
	2	PANEL KEY Assy	AWZ6788
	3	Panel Cushion V	AED1199
	4	Panel Cushion H	AED1226
	5	Protect Panel Assy (50)	See Contrast table (2)
NSP	6	Panel Holder (50)	ANG2563
	7	Cushion	AEB1393
	8	Front Case Assy	See Contrast table (2)
	9	Power Button	See Contrast table (2)
	10	Coil Spring	ABH1114
	11	Blind Cushion	AEB1383
	12	Screw	BBZ30P050FMC
	13	Screw	ABZ30P060FMC
	14	Serial Sheet	AAX2609
	15	Case Spacer S	AEC1984

(2) CONTRAST TABLE

PDP-504PU/ TUCK, PDP-504PE/ WYVI6, PDP-504PE/ WYVI6XK and PRO-504PU/ KUC are constructed the same except for the following :

Mark	No.	Symbol and Description	PDP-504PU TUCK	PDP-504PE WYVI6	PDP-504PE WYVI6XK	PRO-504PU KUC
	5	Protect Panel Assy (50)	AMR3385	AMR3348	AMR3348	AMR3348
	8	Front Case Assy	AMB2763	AMB2763	AMB2763	AMB2804
	9	Power Button	AAD4123	AAD4123	AAD4123	AAD4126

2.8 PANEL CHASSIS (50) Assy (AWU1081)

PANEL CHASSIS (50) Assy (AWU1081) Parts List

Mark	No.	Description	Part No.
NSP		1..P. Chassis (50) Assy	AWU1081
NSP		2..50 ADDRESS Assy	AWV2069
NSP		3..50 ADDRESS Assy	AWZ6839
NSP		2..50 SCAN FUKUGO Assy	AWV2036
NSP		3..50 SCAN A Assy	AWZ6809
NSP		3..50 SCAN B Assy	AWZ6810
NSP		3..X CONNECTOR A Assy	AWZ6811
NSP		3..X CONNECTOR B Assy	AWZ6812
NSP		2..Address Module (IC1-IC40)	AXF1116
NSP		2..Plasma Panel Assy(50")(V1)	AAV1244
NSP		2..FPC (50XGA-X)	ADY1084
NSP		2..FPC (50XGA-Y)	ADY1085
NSP		2..Chassis Assy (50)	ANA1774
		2..PCB Spacer	AEC1944
		2..PCB Support	AEC1958
		2..Rivet (Plastic)	AMR1066
		2..FC Spacer	AMR3370
		2..Adhesive	ZBA-KE3424G
NSP		2..Lotion	ZLX-AP7
NSP		2..Tape	ZTA-8101-12
NSP		2..Double Faced Tape	ZTB-5015-18
NSP		2..Tape	ZTC-POLYCA-11
NSP		2..Tape	ZTC-POLYCA-20
NSP		2..Tape	ZTC-900UL-15
NSP		2..Silicone Rubber	ZTX-HC20-15
NSP		2..Wiping Cloth	ZTX-MX100-13
NSP		2..Film	ZTX-2102Y35-2R5
NSP		2..Film	ZTX-2102Y45-5

2.9 PDP SERVICE Assy (AWU1080)

PDP SERVICE Assy (AWU1080) Parts List

Mark	No.	Description	Part No.
NSP		1..P. Chassis (50) Assy	AWU1081
NSP		2..Front Chassis H (50)	ANA1733
		2..Front Chassis VL (50)	ANA1765
		2..Front Chassis VR (50)	ANA1766
		2..Sub Frame L Assy	ANG2559
		2..Sub Frame R Assy	ANG2561
		2..Wire Saddle	AEC1745
		2..Clamp	AEC1884
		2..PCB Support	AEC1938
		2..PCB Spacer	AEC1941
		2..PCB Spacer	AEC1947
		2..Wire Clip	AEC1948
		2..Spacer	AEB1397
		2..Panel Cushion H (50)	AED1226
		2..Panel Cushion V (50)	AED1199
		2..Front Spacer	AMR3369
		2..Caution Label	AAX3031
NSP		2..Drive Voltage Label	ARW1097
		2..Front Case (504 Service)	AMB2811 (Note)
		2..Rear Case (50P)	ANE1614 (Note)

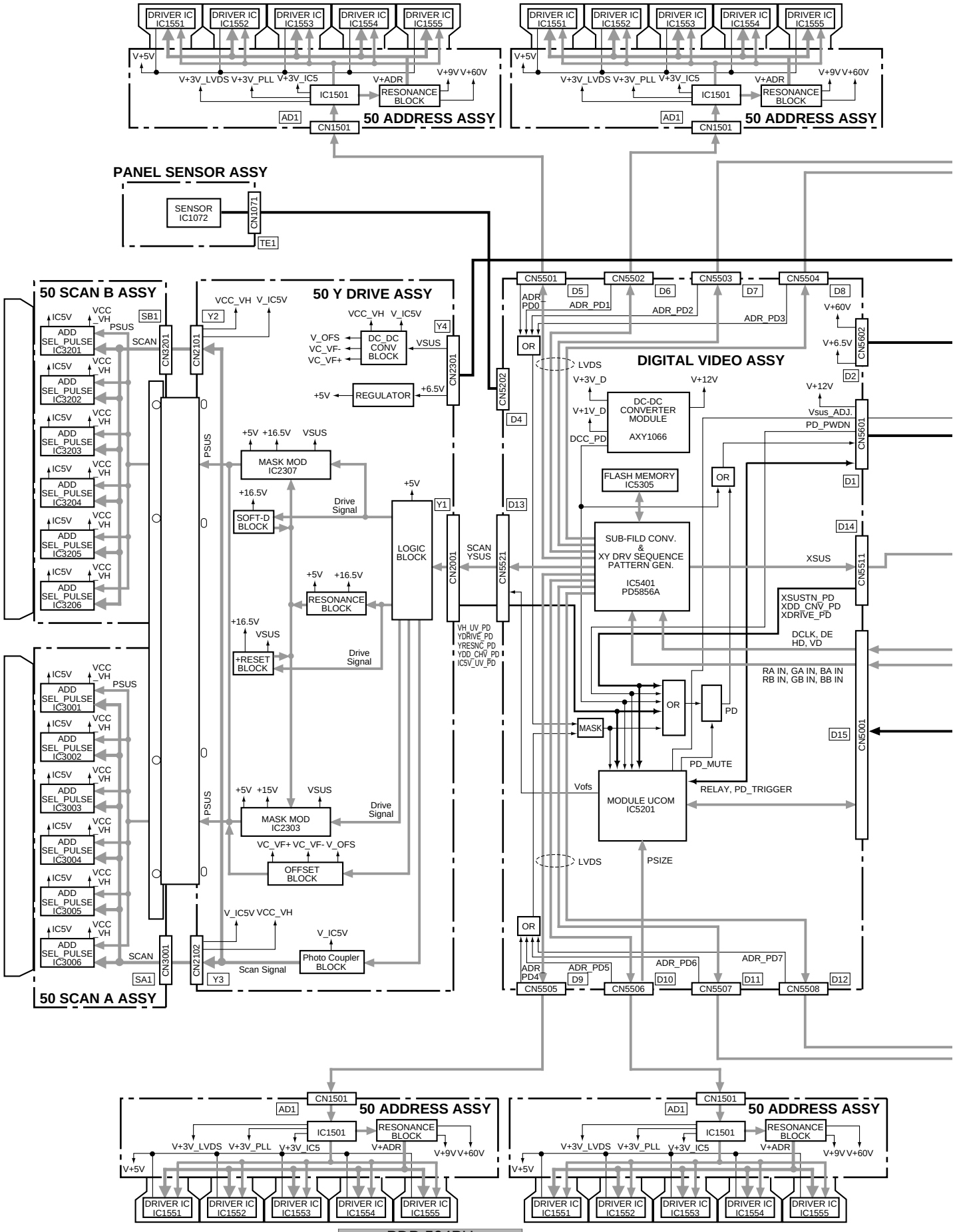
Note: The front case (504 Service) and rear case (50P) attached to the Service Assy are for transportation only. Do NOT use them as parts of the unit.

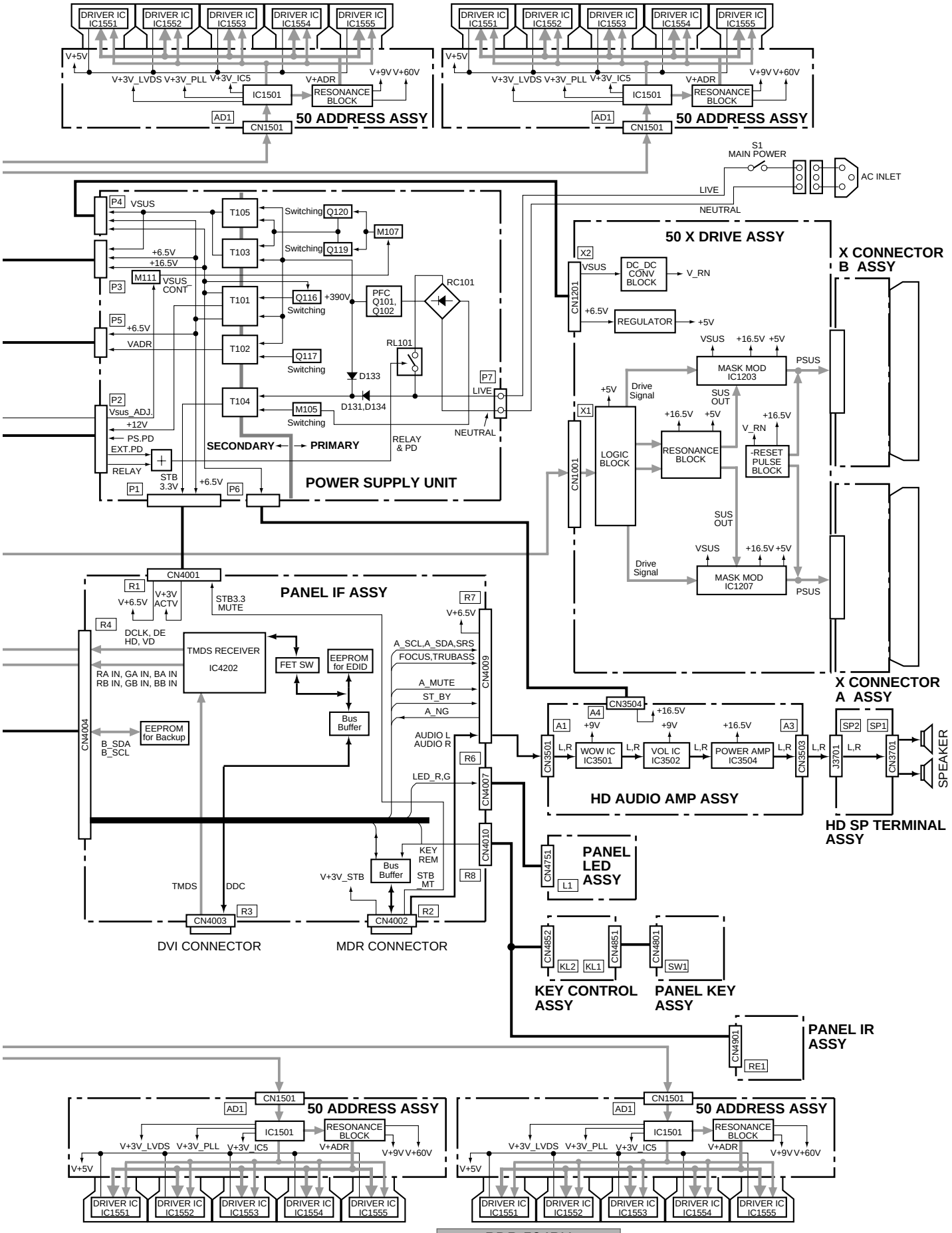
		2..Screw	AMZ30P060FZK
		2..Screw	AMZ30P080FMC
		2..Screw	AMZ30P080FZK
		2..Screw	PMB30P060FNI
		2..Screw	VBB30P080FNI
		2..Screw	ABZ30P100FZK

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

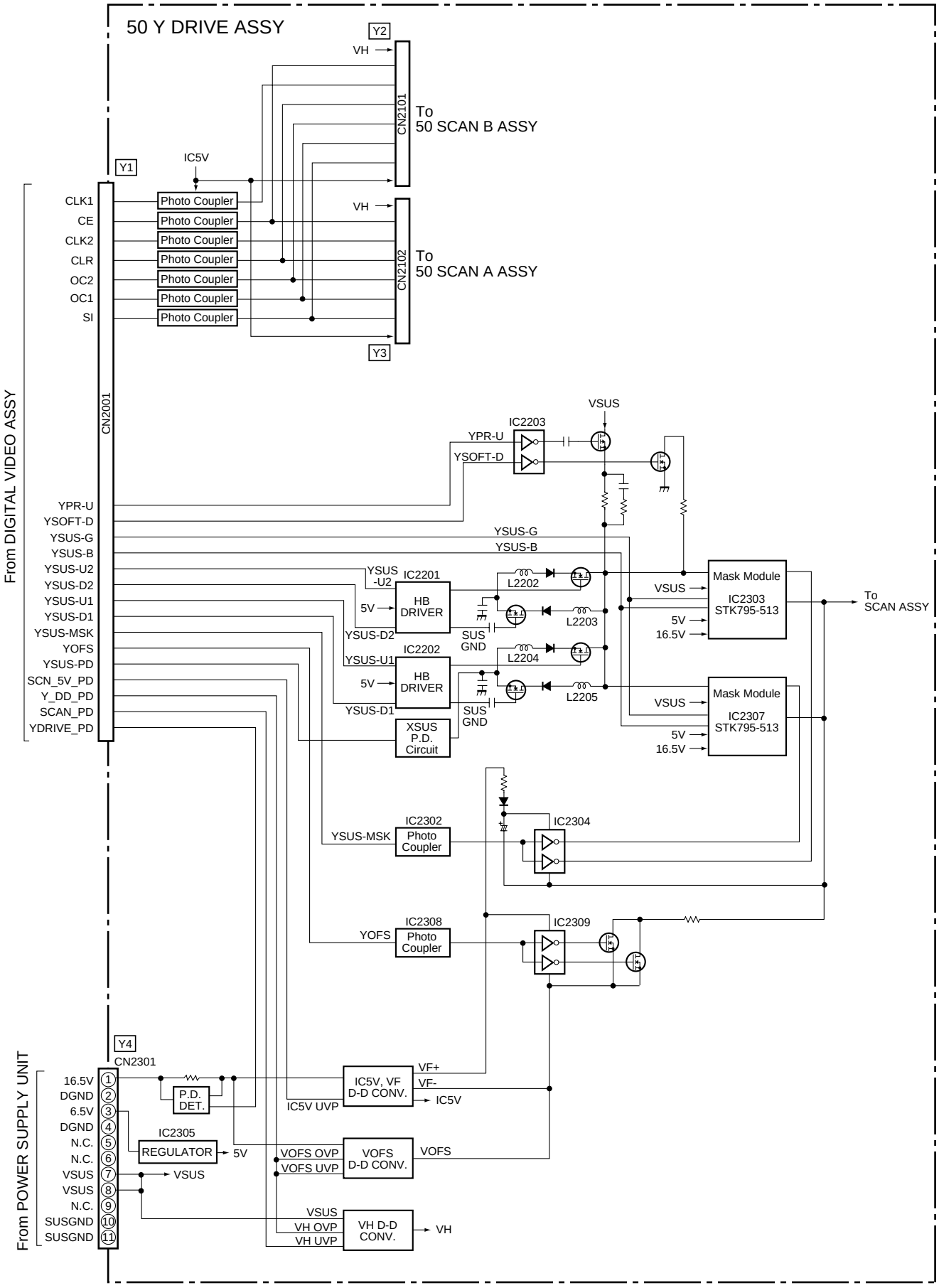
3.1.1 OVERALL BLOCK DIAGRAM




50 ADDRESS ASSY
DRIVER IC IC1551
DRIVER IC IC1552
DRIVER IC IC1553
DRIVER IC IC1554
DRIVER IC IC1555
V+5V
V+3V_LVDS V+3V_PLL V+3V_IC5
V+ADR
V+9V V+60V
IC1501
RESONANCE BLOCK
AD1
CN1501
S1
MAIN POWER
AC INLET
LIVE
NEUTRAL
POWER SUPPLY UNIT
P4 VSUS
T105
T103
T101
T102
T104
Switching
Q120
Q119
Q116
Q117
M107
M105
M111
VSUS_CONT
+6.5V
+16.5V
+390V
PFC Q101, Q102
RC101
RL101
D133
D131,D134
P3
P5
VADR
P2
Vsus_ADJ.
+12V
PS.PD
EXT.PD
RELAY
STB 3.3V
P1
P6
P7
SECONDARY
PRIMARY
RELAY & PD
50 X DRIVE ASSY
X2
CN1201
DC_DC CONV BLOCK
V_RN
REGULATOR
+5V
MASK MOD IC1203
PSUS
SUS OUT
Drive Signal
X1
CN1001
LOGIC BLOCK
RESONANCE BLOCK
-RESET PULSE BLOCK
MASK MOD IC1207
X CONNECTOR B ASSY
X CONNECTOR A ASSY
PANEL IF ASSY
CN4001
R1
V+3V ACTV
STB3.3 MUTE
R4
DCLK, DE HD, VD
TMDS RECEIVER IC4202
FET SW
EEPROM for EDID
Bus Buffer
RA IN, GA IN, BA IN
RB IN, GB IN, BB IN
EEPROM for Backup
B_SDA
B_SCL
CN4004
R7
A_SCL,A_SDA,SRS
FOCUS,TRUBASS
A_MUTE
ST_BY
A_NG
CN4009
AUDIO L
AUDIO R
R6
LED_R,G
CN4007
CN4010
KEY REM
STB_MT
R8
TMDS
DDC
R3
R2
CN4003
CN4002
DVI CONNECTOR
MDR CONNECTOR
CN3504
A4
A1
A3
+9V
+16.5V
CN3501
WOW IC IC3501
VOL IC IC3502
POWER AMP IC3504
CN3503
J3701
SP2
SP1
CN3701
SPEAKER
L,R
HD AUDIO AMP ASSY
HD SP TERMINAL ASSY
CN4751
L1
PANEL LED ASSY
CN4852
CN4851
CN4801
KL2
KL1
SW1
KEY CONTROL ASSY
PANEL KEY ASSY
CN4901
RE1
PANEL IR ASSY

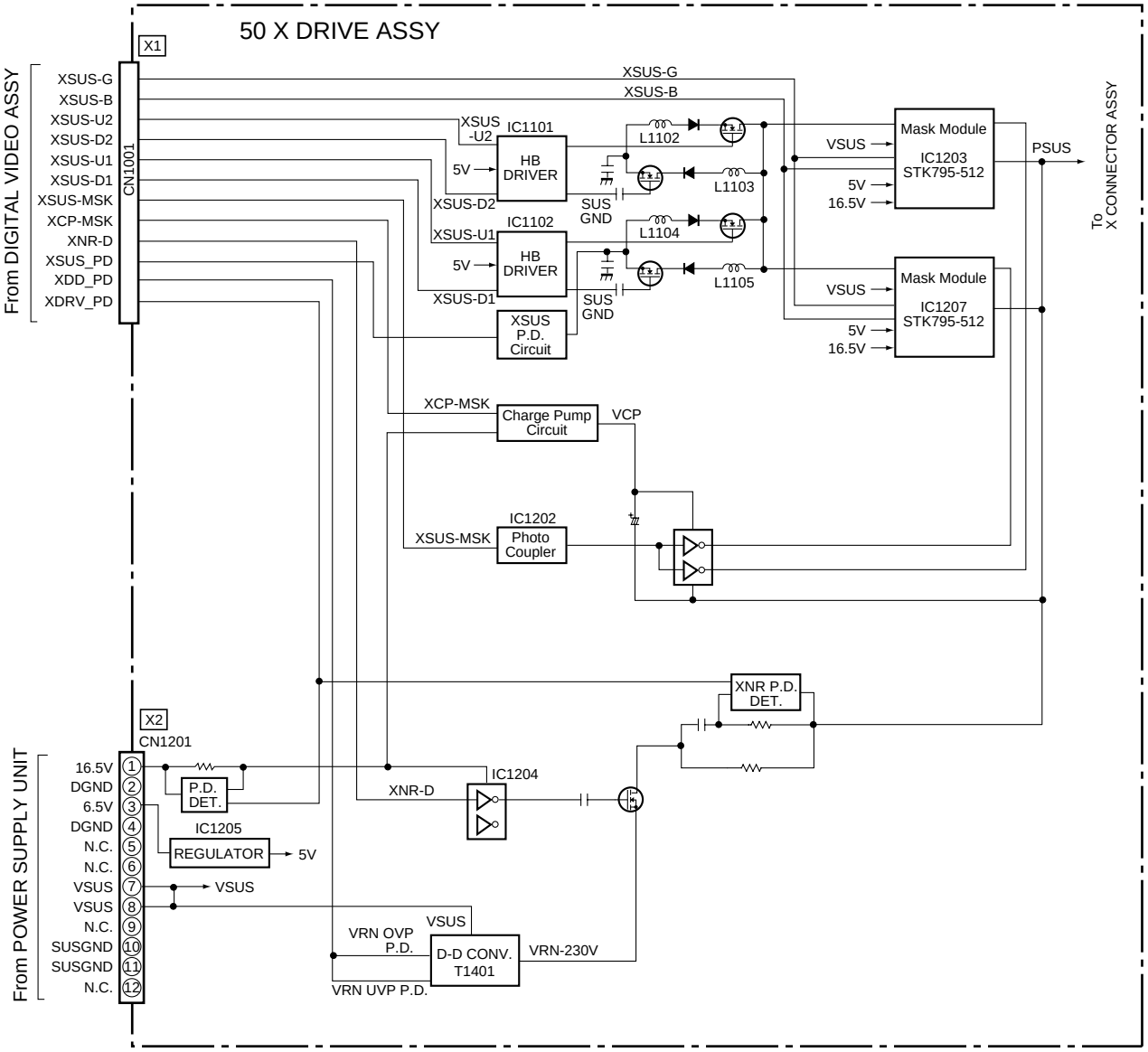
3.1.2 50 Y DRIVE ASSY

• Block Diagram



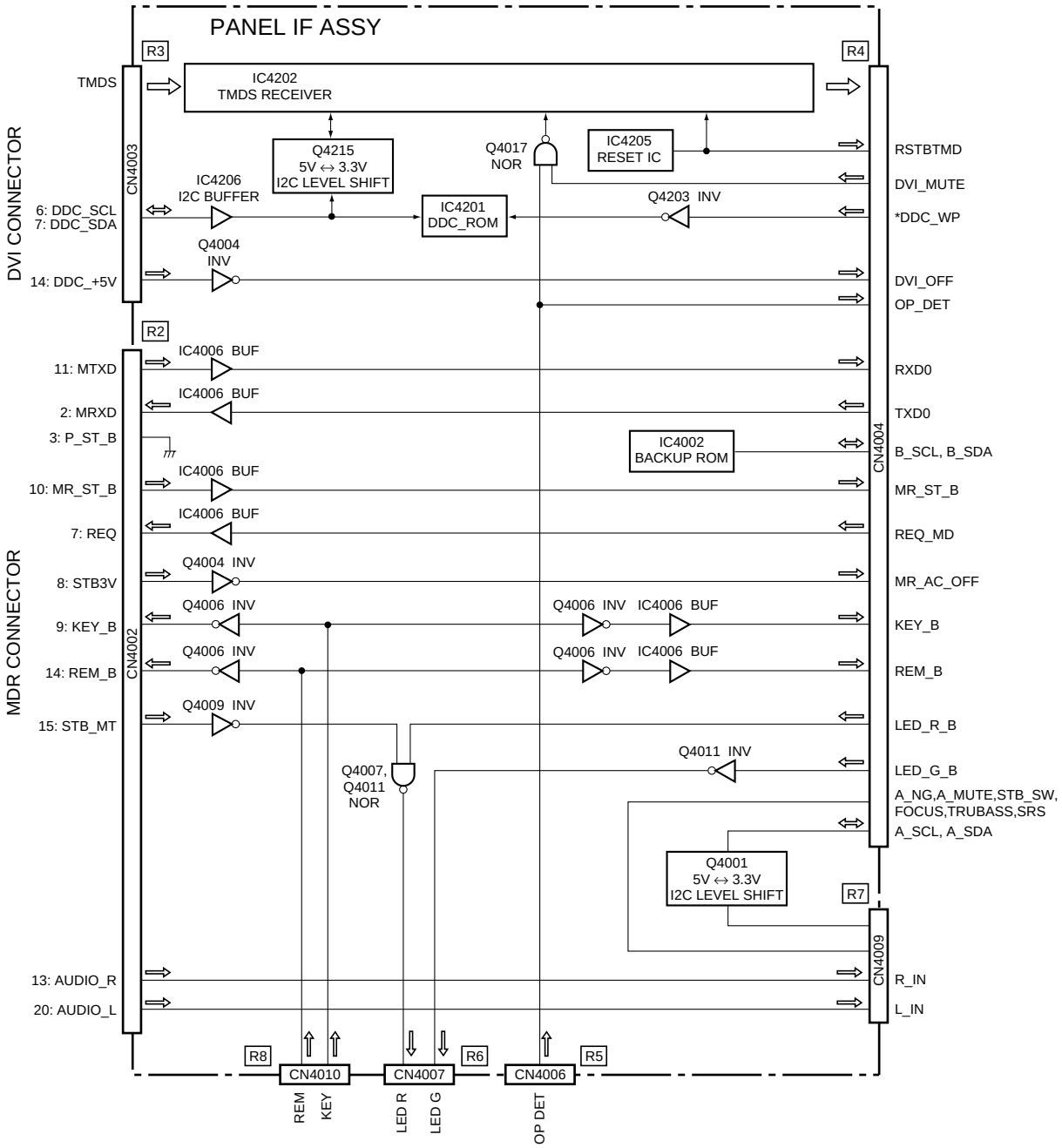
3.1.3 50 X DRIVE ASSY

• Block Diagram



3.1.4 PANEL IF ASSY

• Block Diagram



• Voltages

CN4001 (R1) < ⇔ POWER SUPPLY UNIT >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	6.5V	I	+6.5V power supply	+6.8VDC
2	6.5V	I	+6.5V power supply	+6.8VDC
3	Vcc_GND	–	GND	
4	Vcc_GND	–	GND	
5	STB3.3V	I	Power supply +3.3V input of module UCOM at panel side	+3.3VDC
6	STB_GND	–	GND	
7	STB3.3MUTE	O	Standby control (+3.3V mute)	+6.7VDC
8	AC_DET	I	Primary power supply (AC) state input at panel side	+3.0VDC

CN4002 (R2) < ⇔ MEDIA RECEIVER >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	MR_ST_B	I	Connection state detecting signal with MDR	0VDC
2	MRXD	O	UART communication transmission data with the main UCOM (external PC) at MDR side	0-3.3V amplitude square wave
3	P_ST_B	O	Connection state output for the MDR	0VDC
4	ACT3V	O	Power supply +3.3V output of module UCOM at panel side	+3.3VDC
5	AC_OFF	O	Primary power supply (AC) state output at panel side	0VDC
6	GND	–	GND	
7	REQ	O	Communication request to the main UCOM (external PC) at the MDR	0-3.3V amplitude square wave
8	STB3V	I	Standby power supply (+3.3V) input from the MDR	+3.3VDC
9	KEY_B	O	Function key code signal output at panel side	0-3.3V amplitude square wave (at key operation)
10	MR_ST_B'	I	Connection state detecting signal with the MDR	0VDC
11	MTXD	I	UART communication receive data with the main UCOM (external PC) at the MDR side	0-3.3V amplitude square wave
12	GND	–	GND	
13	AUDIO_R	I	R ch audio signal input	Audio R signal
14	REM_B	O	Remote control code signal output	0-3.3V amplitude square wave (at remocon code transmission)
15	STB_MT	I	Standby control input	0VDC
16	GND	–	GND	
17	NC	–	Not connected	–
18	FIELD	I	FIELD control signal	0VDC
19	GND	–	GND	
20	AUDIO_L	I	L ch audio signal input	Audio L signal

CN4003 (R3) < ⇔ MEDIA RECEIVER >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	RX2-	I	DVI signal	DVI differential signal (-)
2	RX2+	I	DVI signal	DVI differential signal (+)
3	GND	–	GND	
4	N.C	–	Not connected	–
5	N.C	–	Not connected	–
6	DDC_SCL	I	I2C signal for DDC	0-5V amplitude square wave
7	DDC_SDA	I	I2C signal for DDC	0-5V amplitude square wave
8	N.C	–	Not connected	–
9	RX1-	I	DVI signal	DVI differential signal (-)
10	RX1+	I	DVI signal	DVI differential signal (+)
11	GND	–	GND	
12	N.C	–	Not connected	–
13	N.C	–	Not connected	–
14	DDC_+5V	I	I2C power supply for DDC	+5VDC
15	GND	–	GND	
16	HPD	O	Hot plug detection	+5VDC
17	RX0-	I	DVI signal	DVI differential signal (-)
18	RX0+	I	DVI signal	DVI differential signal (+)
19	GND	–	GND	
20	N.C	–	Not connected	–
21	N.C	–	Not connected	–

• Voltages

CN4003 (R3) < ⇔ MEDIA RECEIVER >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
22	GND	–	GND	
23	RXC+	I	DVI signal	DVI differential signal (-)
24	RXC-	I	DVI signal	DVI differential signal (+)

CN4006 (R5) < ⇔ TRAP SW >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	OP_DET	I	Rear panel open detecting signal	0VDC
2	N.C	–	Not connected	–
3	GND	–	GND	

CN4007 (R6) < ⇔ PANEL LED ASSY >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	LED_G	O	LED control (green)	+2.1VDC
2	LED_R	O	LED control (red)	0VDC
3	AC_OFF	O	Primary power supply (AC) state output at the panel side	0VDC

CN4009 (R7) < ⇔ HD AUDIO AMP ASSY >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	A_NG	I	Abnormal detecting signal of the audio block	+3.3V DC
2	V+6.5	O	+6.5V power supply	+6.8V DC
3	GNDA	–	GND	
4	L_IN	O	L ch audio signal	Audio L signal
5	GNDA	–	GND	
6	R_IN	O	R ch audio signal	Audio R signal
7	ST_BY	O	Standby signal of the audio block	+3.3V DC
8	A_MUTE	O	Audio mute signal input	0V DC
9	SCL	O	I2C control signal for audio	0-3.3V amplitude square wave
10	SDA	O	I2C control signal for audio	0-3.3V amplitude square wave
11	FOCUS	O	Focus function control signal	+3.3V DC
12	SRS	O	SRS function control signal	+3.3V DC
13	TRUBASS	O	TRUBASS function control signal	+3.3V DC

CN4010 (R8) < ⇔ PANEL IR ASSY, KEY CONTROL ASSY >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	STB3V	O	+3.3V power supply	+3.3V DC
2	STBGND	–	GND	
3	REM	I	Remote control code signal input	0-3.3V amplitude square wave (at remocon code transmission)
4	STB+3V	O	+3.3V power supply	+3.3V DC
5	KEY	I	Function key code signal input at the panel side	0-3.3V amplitude square wave (at key operation)
6	STBGND	–	GND	

CN4801 (SW1) < ⇔ KEY CONTROL ASSY >

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	STBGND	–	GND	0V DC
2	G1	O	Key scan signal	0V DC
3	G0	O	Key scan signal	0V DC
4	D5	I	Key scan signal	+3.3V DC
5	D6	I	Key scan signal	+3.3V DC
6	D7	I	Key scan signal	+3.3V DC

• Voltages

CN4004 (R4) < ⇔ DIGITAL VIDEO ASSY > (1/2)

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	GND	–	GND	
2	GND	–	GND	
3			Not connected	–
4			Not connected	–
5	BA0	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
6	BA1	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
7	BA2	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
8	BA3	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
9	BA4	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
10	BA5	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
11	BA6	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
12	BA7	O	8bit video signal output (BLUE even number)	0-3.3V amplitude square wave
13	GND	–	GND	
14	GND	–	GND	
15			Not connected	–
16			Not connected	–
17	GA0	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
18	GA1	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
19	GA2	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
20	GA3	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
21	GA4	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
22	GA5	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
23	GA6	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
24	GA7	O	8bit video signal output (GREEN even number)	0-3.3V amplitude square wave
25	GND	–	GND	
26	GND	–	GND	
27			Not connected	–
28			Not connected	–
29	RA0	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
30	RA1	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
31	RA2	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
32	RA3	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
33	RA4	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
34	RA5	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
35	RA6	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
36	RA7	O	8bit video signal output (RED even number)	0-3.3V amplitude square wave
37	GND	–	GND	
38	DCLK	O	Synchronous signal output (clock)	0-3.3V amplitude square wave (42.5MHz)
39	GND	–	GND	
40	DEI	O	Synchronous signal output (data enable)	0-3.3V amplitude square wave (positive polarity)
41	HDI	O	Synchronous signal output (Horizontal sync.)	0-3.3V amplitude square wave (negative polarity)
42	VDI	O	Synchronous signal output (Vertical sync.)	0-3.3V amplitude square wave (negative polarity)
43	FIELD	O	FIELD control signal	0V DC
44	APL_DT		Not connected	–
45			Not connected	–
46			Not connected	–
47	BB0	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
48	BB1	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
49	BB2	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
50	BB3	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
51	BB4	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
52	BB5	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
53	BB6	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
54	BB7	O	8bit video signal output (BLUE odd number)	0-3.3V amplitude square wave
55	GND	–	GND	
56	GND	–	GND	
57			Not connected	–
58			Not connected	–

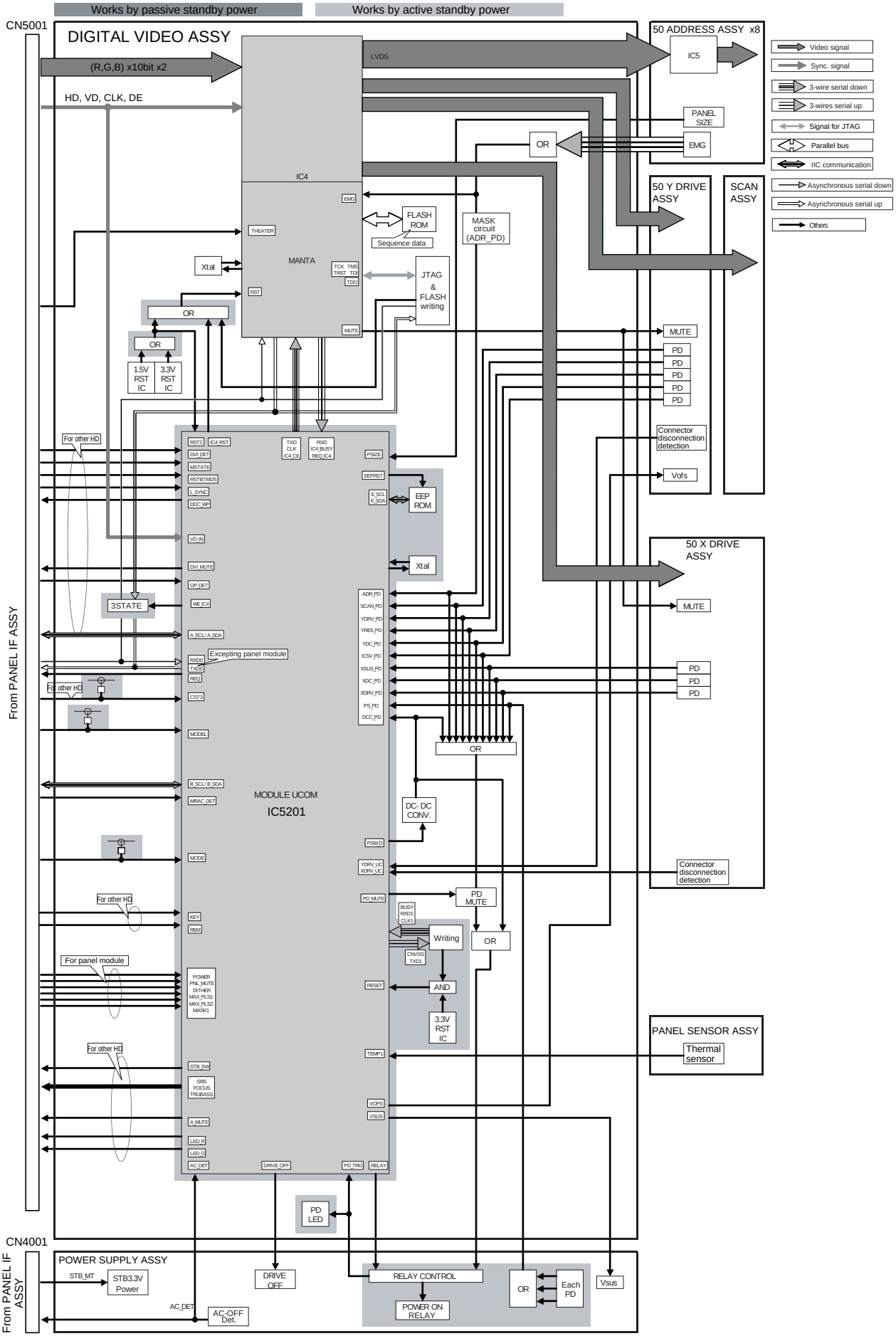
• Voltages

CN4004 (R4) < ⇔ DIGITAL VIDEO ASSY > (2/2)

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
59	GB0	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
60	GB1	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
61	GB2	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
62	GB3	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
63	GB4	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
64	GB5	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
65	GB6	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
66	GB7	O	8bit video signal output (GREEN odd number)	0-3.3V amplitude square wave
67	GND	–	GND	
68	GND	–	GND	
69			Not connected	–
70			Not connected	–
71	RB0	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
72	RB1	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
73	RB2	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
74	RB3	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
75	RB4	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
76	RB5	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
77	RB6	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
78	RB7	O	8bit video signal output (RED odd number)	0-3.3V amplitude square wave
79	GND	–	GND	
80	MASK		Not connected	–
81	MODE		Not connected	–
82	MODEL		Not connected	–
83	DITHER		Not connected	–
84	V+3VACTV	O	Power supply +3.3V output of module UCOM at panel side	+3.3VDC
85	B_SDA	I	E2PROM control signal for backup	0-3.3V amplitude square wave
86	RXD0	O	UART communication receive data with the main UCOM (external PC) at MDR side	0-3.3V amplitude square wave
87	REM_B	O	Remote control code signal output	0-3.3V amplitude square wave (at remocon code transmission)
88	TXD0	I	UART communication transmission data with the main UCOM (external PC) at MDR side	0-3.3V amplitude square wave
89	KEY_B	O	Function key code signal output at panel side	0-3.3V amplitude square wave (at key operation)
90	REQ_MD	I	Communication request to the main UCOM (external PC) at MDR side	0-3.3V amplitude square wave
91	LED_R_B	I	LED control (red)	+3.3VDC
92	MR_AC_OFF	O	AC state output at MR side	0VDC
93	LED_G_B	I	LED control (green)	0VDC
94	POWER		Not connected	–
95	DVI_MUTE	I	DVI mute signal input	0VDC
96	MR_ST_B	O	Connection state detecting signal with MDR	0VDC
97	A_MUTE	I	Audio mute signal input	0VDC
98	OP_DET	O	Rear case open detecting signal	0VDC
99	A_NG	O	Abnormal detecting signal of audio block	+3.3VDC
100	PNL_MUTE		Not connected	–
101	A_SCL	I	I2C control signal for audio	0-3.3V amplitude square wave
102	STB_SW	I	Standby signal of audio block	+3.3VDC
103	A_SDA	I	I2C control signal for audio	0-3.3V amplitude square wave
104	DDC_WP	I	EDID E2PROM writing inhibit signal	0VDC
105	TRUBASS	I	TRUBASS function control signal	+3.3VDC
106	B_SCL	I	E2PROM control signal for backup	0-3.3V amplitude square wave
107	FOCUS	I	FOCUS function control signal	+3.3VDC
108	DVI_OFF	O	Connection detecting signal of DVI connector	0VDC
109	SRS	I	SRS function control signal	+3.3VDC
110	RSTBTMD	O	TMDS IC reset signal	+3.3VDC
111	MAX_PLS1		Not connected	–
112	L_SYNC	O	TMDS IC synchronous detecting signal	+3.3VDC
113	MAX_PLS2		Not connected	–
114	GND	–		

3.1.5 DIGITAL VIDEO ASSY

• Block Diagram



• Voltages

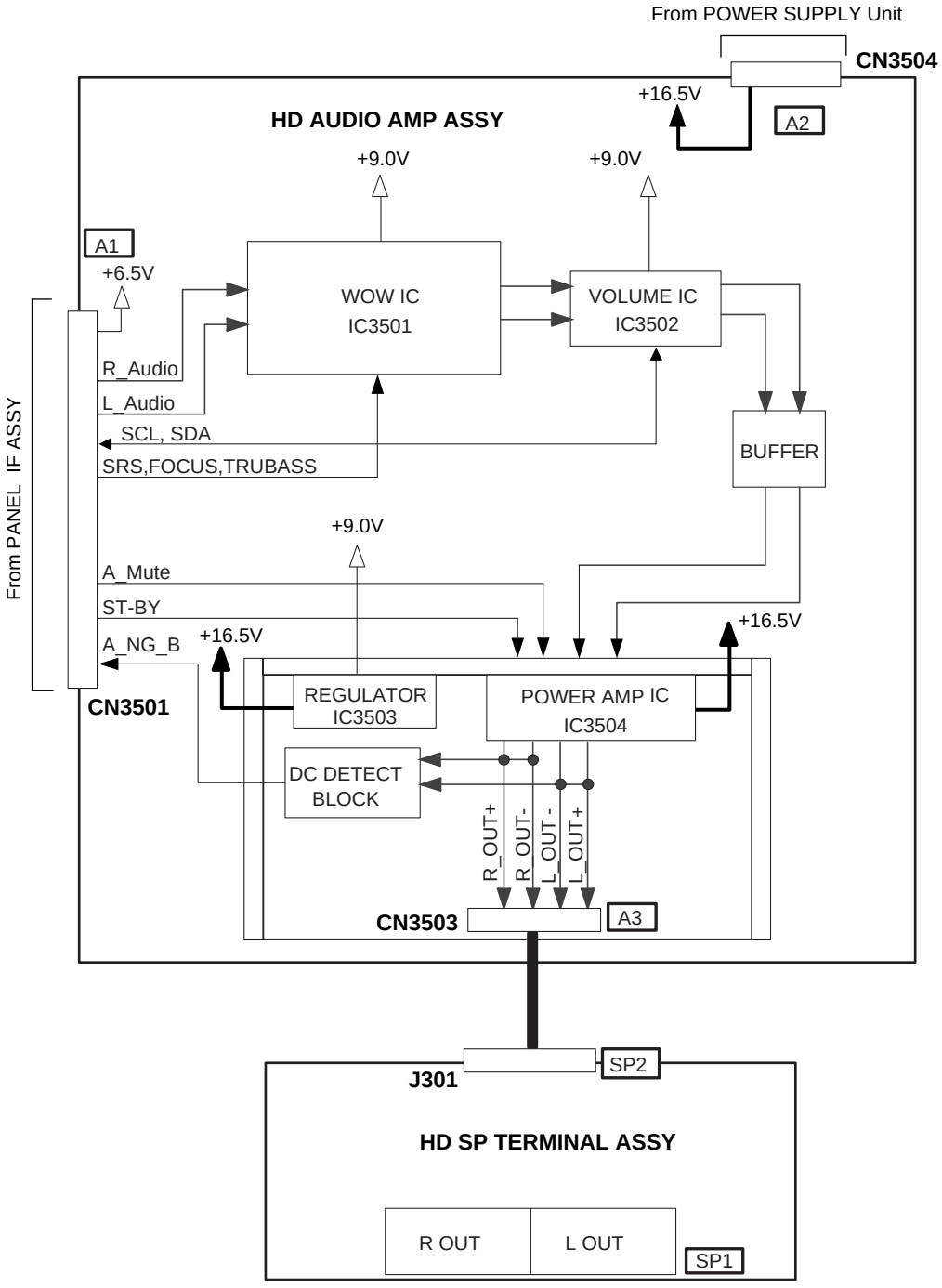
CN5601 (D1)

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	+12V	I	+12V power input	+12VDC
2	+12V	I	+12V power input	+12VDC
3	GND_D	–	GND	
4	GND_D	–	GND	
5	PD	O	Power down signal	0VDC
6	VSUS_ADJ	O	VSUS adjustment signal	
7	PS_PD	I	Power-down detecting signal of POWER SUPPLY block	0VDC
8	RELAY	O	Relay control signal	+3.3VDC
9	DRF	O	Drive control signal	0VDC
10	AC_DET	I	Primary side power (AC) state output at panel side	+3.0VDC
11	PD_TRIGGER	I	Power down trigger	+3.3VDC

CN5602 (D2)

No.	Signal Name	I/O	Signal Description	Voltages at NTSC Signal Input
1	VADR	I	Address drive power (+61V) input	+61VDC
2	VADR	I	Address drive power (+61V) input	+61VDC
3	N.C		Not connected	
4	GND_ADR	–	GND	
5	GND_ADR	–	GND	
6	+6.5V	I	+6.5V power input	+6.8VDC
7	GND_D	–	GND	

3.1.6 HD AUDIO AMP ASSY

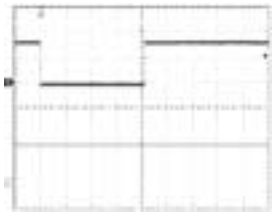


3.2 WAVEFORMS

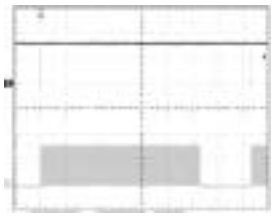
DIGITAL VIDEO ASSY

① CH1: K5003 (VD)
CH2: K5002 (HD)
V: 2V/div. H: 2msec/div.

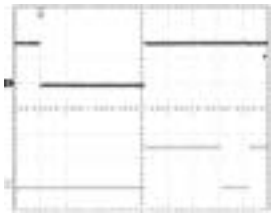
① CH1: K5003 (VD)
CH2: K5002 (HD)
V: 2V/div. H: 4µsec/div.



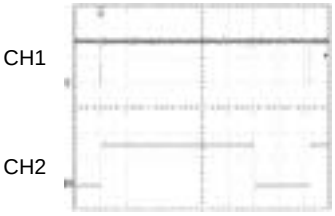
② CH1: K5003 (VD)
CH2: K5004 (DE)
V: 2V/div. H: 2msec/div.



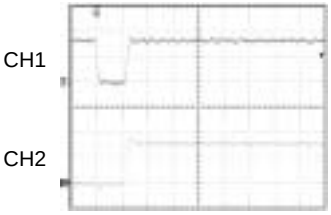
② CH1: K5003 (VD)
CH2: K5004 (DE)
V: 2V/div. H: 4µsec/div.



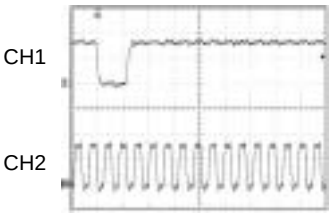
③ CH1: K5002 (HD)
CH2: K5004 (DE)
V: 2V/div. H: 2µsec/div.



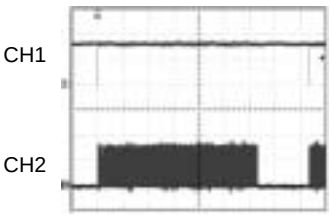
③ CH1: K5002 (HD)
CH2: K5004 (DE)
V: 2V/div. H: 40nsec/div.



④ CH1: K5002 (HD)
CH2: CN5001-pin 77 (DCLK)
V: 2V/div. H: 40nsec/div.

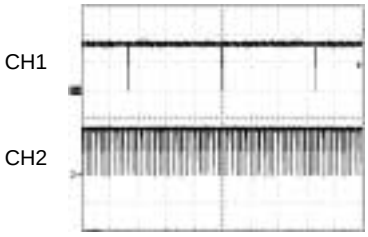


⑤ CH1: K5003 (VD)
CH2: CN5001-pin 88 (RA_IN2)
V: 2V/div. H: 2msec/div.

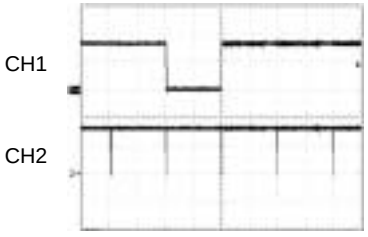


PANEL IF ASSY

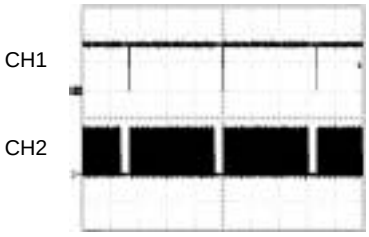
① **CH1: K4005 (VDI)**
CH2: K4006 (HDI)
V: 2V/div. H: 5msec/div.



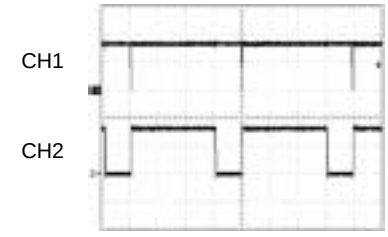
① **CH1: K4005 (VDI)**
CH2: K4006 (HDI)
V: 2V/div. H: 10µsec/div.



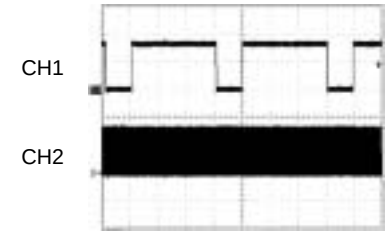
② **CH1: K4005 (VDI)**
CH2: CN4004-pin 29 (RAO)
V: 2V/div. H: 5msec/div.



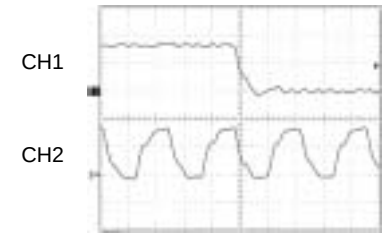
③ **CH1: K4006 (HDI)**
CH2: K4003 (DEI)
V: 2V/div. H: 5µsec/div.



④ **CH1: K4003 (DEI)**
CH2: K4002 (DCLK)
V: 2V/div. H: 5µsec/div.



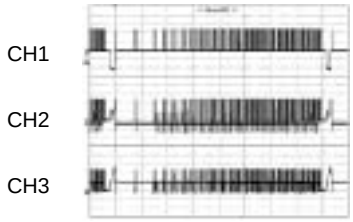
④ **CH1: K4003 (DEI)**
CH2: K4002 (DCLK)
V: 2V/div. H: 10nsec/div.



50 X DRIVE ASSY, 50 Y DRIVE ASSY and 50 SCAN A ASSY

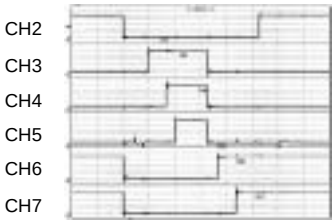
● **Drive Output Waveform (1 field,color-bar)**

CH1: R1226 (XPSUS) - K1201 (SUSGND) (50 X DRIVE ASSY)
CH2: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)
CH3: K3001 (Scan OUT) - K2301 (SUSGND) (50 SCAN A ASSY)
V: 100V/div. H: 2msec/div.



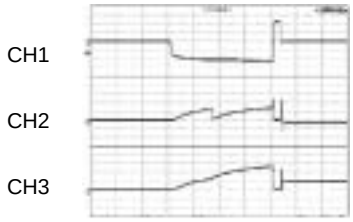
● **Control Signal (Sustain Waveform Gen.)**

CH2: K2016 (YSUS-G) - K2010 (DGND)
CH3: K2025 (YSUS-U1) - K2010 (DGND)
CH4: K2022 (YSUS-U2) - K2010 (DGND)
CH5: K2026 (YSUS-B) - K2010 (DGND)
CH6: K2024 (YSUS-D2) - K2010 (DGND)
CH7: K2027 (YSUS-D1) - K2010 (DGND) (50 Y DRIVE ASSY)
V: 1V/div. H: 500nsec/div.



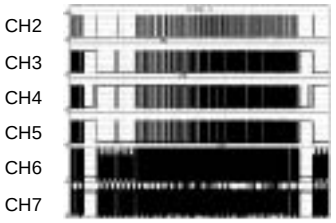
● **Reset Pulse**

CH1: R1226 (XPSUS) - K1201 (SUSGND) (50 X DRIVE ASSY)
CH2: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)
CH3: K3001 (Scan OUT) - K2301 (SUSGND) (50 SCAN A ASSY)
V: 100V/div. H: 100µsec/div.



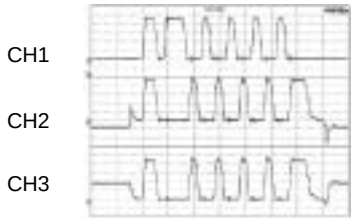
● **Scan Control Signal (1 field, color-bar)**

CH2: K2006 (SI) - K2029 (DGND)
CH3: K2009 (OC1) - K2029 (DGND)
CH4: K2004 (OC2) - K2029 (DGND)
CH5: K2007 (CLR) - K2029 (DGND)
CH6: K2003 (CLK2) - K2029 (DGND)
CH7: K2008 (LE) - K2029 (DGND) (50 Y DRIVE ASSY)
V: 1V/div. H: 2msec/div.



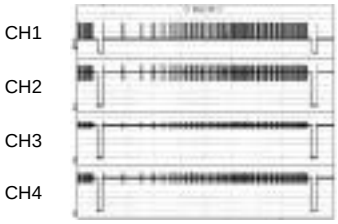
● **Sustain Pulse (1 sub-sub-field)**

CH1: R1226 (XPSUS) - K1201 (SUSGND) (50 X DRIVE ASSY)
CH2: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)
CH3: K3001 (Scan OUT) - K2301 (SUSGND) (50 SCAN A ASSY)
V: 50V/div. H: 5µsec/div.



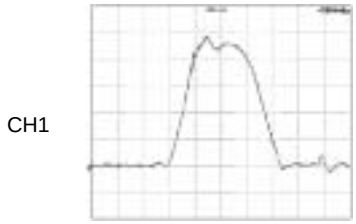
● **X Drive Pulse Control Signal (color-bar)**

CH1: R1226 (XPSUS) - K2301 (SUSGND)
V: 100V/div. H: 2msec/div.
CH2: K1016 (XCP-MSK) - K1020 (DGND)
CH3: K1015 (XSUS-MSK) - K1020 (DGND)
CH4: K1014 (XNR-D) - K1020 (DGND)
V: 1V/div. H: 2msec/div.
(50 X DRIVE ASSY)



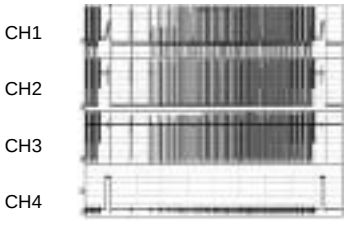
● **Sustain Waveform**

CH1: R2348 (YPSUS) - K2301 (SUSGND) (50 Y DRIVE ASSY)
V: 50V/div. H: 500nsec/div.



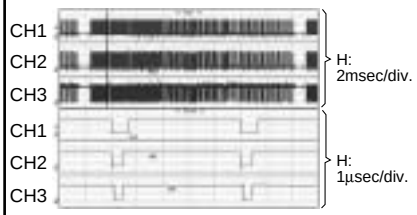
● **Y Drive Pulse Control Signal (color-bar)**

CH1: R2348 (YPSUS) - K2301 (SUSGND)
V: 50V/div. H: 2msec/div.
CH2: K2015 (YSUS-MSK) - K2010 (DGND)
CH3: K2017 (YSOFT-D) - K2010 (DGND)
CH4: K2023 (YPR-U) - K2010 (DGND)
V: 1V/div. H: 2msec/div.
(50 Y DRIVE ASSY)

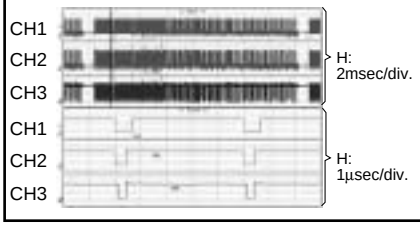


50 ADDRESS ASSY
• ADR RESONANCE BLOCK (VIDEO)

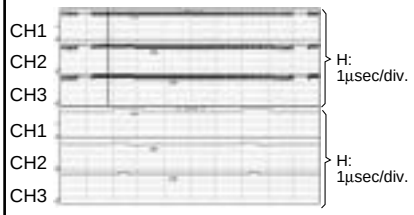
① CH1: IC1601-pin 2 (ADR_B2)
CH2: IC1603-pin 4 (ADR_U1)
CH3: IC1603-pin 2 (ADR_D1)
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)



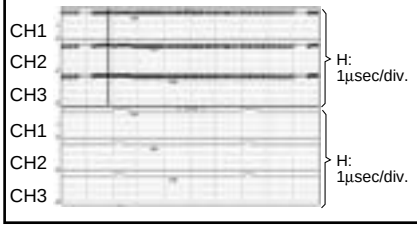
② CH1: IC1601-pin 2 (ADR_B2)
CH2: IC1602-pin 4 (ADR_U2)
CH3: IC1602-pin 2 (ADR_D2)
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)



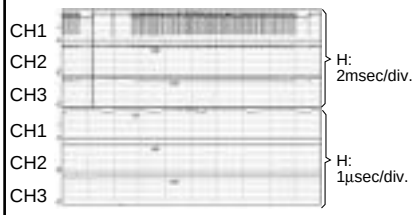
③ CH1: Q1601-pin 4 (ADR_B2)
CH2: Q1603-pin 4 (ADR_U1)
CH3: Q1603-pin 2 (ADR_D1)
V: 10V/div.
(Input: VIDEO, Signal: Color-bar)



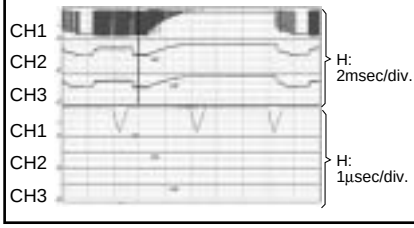
④ CH1: Q1601-pin 4 (ADR_B2)
CH2: Q1602-pin 4 (ADR_U2)
CH3: Q1602-pin 2 (ADR_D2)
V: 10V/div.
(Input: VIDEO, Signal: Color-bar)



⑤ CH1: Q1601 Drain (V+ADR)
CH2: Q1603 Source
CH3: Q1602 Source
V: 10V/div.
(Input: VIDEO, Signal: Color-bar)

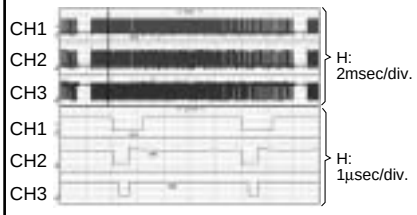


⑥ CH1: Q1601 Drain (V+ADR)
CH2: Q1603 Source
CH3: Q1602 Source
V: 10V/div.
(Input: VIDEO, Signal: B/W(1×8))

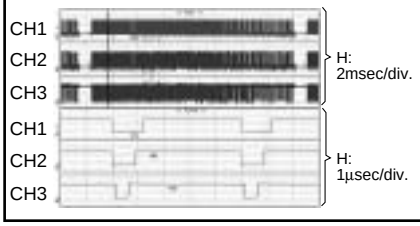


50 ADDRESS ASSY
• ADR RESONANCE BLOCK (PC)

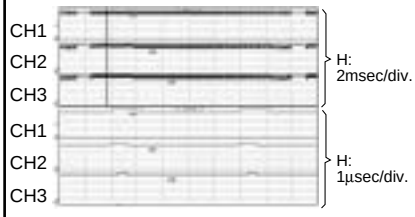
① CH1: IC1601-pin 2 (ADR_B2)
CH2: IC1603-pin 4 (ADR_U1)
CH3: IC1603-pin 2 (ADR_D1)
V: 1V/div.
(Input: PC, Signal: Color-bar)



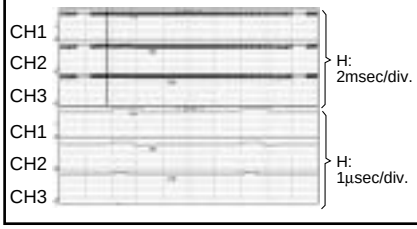
② CH1: IC1601-pin 2 (ADR_B2)
CH2: IC1602-pin 4 (ADR_U2)
CH3: IC1602-pin 2 (ADR_D2)
V: 1V/div.
(Input: PC, Signal: Color-bar)



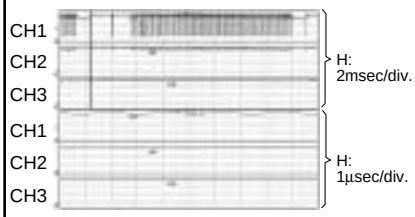
③ CH1: Q1601-pin 4 (ADR_B2)
CH2: Q1603-pin 4 (ADR_U1)
CH3: Q1603-pin 2 (ADR_D1)
V: 10V/div.
(Input: PC, Signal: Color-bar)



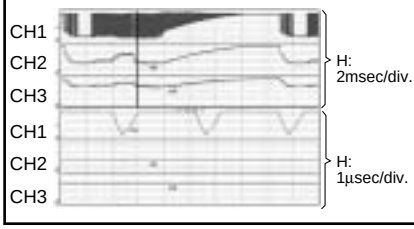
④ CH1: Q1601-pin 4 (ADR_B2)
CH2: Q1602-pin 4 (ADR_U2)
CH3: Q1602-pin 2 (ADR_D2)
V: 10V/div.
(Input: PC, Signal: Color-bar)



⑤ CH1: Q1601 Drain (V+ADR)
CH2: Q1603 Source
CH3: Q1602 Source
V: 10V/div.
(Input: PC, Signal: Color-bar)

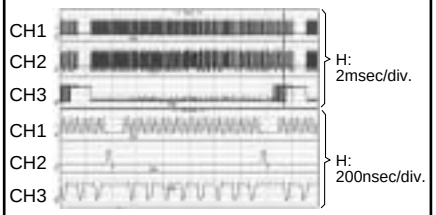


⑥ CH1: Q1601 Drain (V+ADR)
CH2: Q1603 Source
CH3: Q1602 Source
V: 10V/div.
(Input: PC, Signal: B/W(1×8))

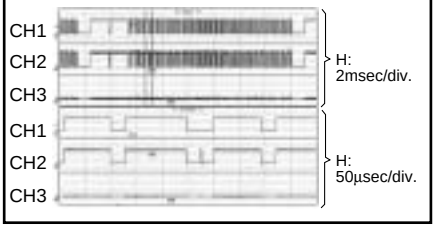


50 ADDRESS ASSY
• ADR LOGIC BLOCK

① CH1: IC1553-pin 18 (CLK input)
CH2: IC1553-pin 16 (LE input)
CH3: IC1553-pin 9 (DATA input)
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)



② CH1: IC1553-pin 23 (HBLK input)
CH2: IC1553-pin 19 (LBLK input)
CH3: IC1553-pin 25 (HZ input)
V: 1V/div.
(Input: VIDEO, Signal: Color-bar)



5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→ *56 x 10¹* →	*561*	*RD1/4PU 5 6 1 J*
47k Ω	→ *47 x 10³* →	*473*	*RD1/4PU 4 7 3 J*
0.5 Ω	→	*R50*	*RN2H R 5 0 K*
1 Ω	→	*1R0*	*RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	→ *562 x 10¹* →	*5621*	*RN1/4PC 5 6 2 1 F*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
NSP	1..	50 ADDRESS ASSY	AWV2069
NSP	2..	50 ADDRESS ASSY	AWZ6839
NSP	1..	50 SCAN FUKUGO ASSY	AWV2036
NSP	2..	50 SCAN A ASSY	AWZ6809
NSP	2..	50 SCAN B ASSY	AWZ6810
NSP	2..	X CONNECTOR A ASSY	AWZ6811
NSP	2..	X CONNECTOR B ASSY	AWZ6812
NSP	1..	HD FUKUGO ASSY	AWV2017
	2..	PANEL IF ASSY	AWZ6786
	2..	PANEL LED ASSY	AWZ6787
	2..	PANEL KEY ASSY	AWZ6788
	2..	KEY CONTROL ASSY	AWZ6789
	2..	PANEL IR ASSY	AWZ6790
	1..	DIGITAL VIDEO ASSY	AWV2070
NSP	1..	HD AUDIO ASSY	AWV2019
	2..	HD SP TERMINAL ASSY	AWZ6792
	2..	HD AUDIO AMP ASSY	AWZ6834
NSP	1..	50 X DRIVE ASSY	AWV2034
	2..	50 X DRIVE ASSY	AWZ6808
	2..	PANEL SENSOR ASSY	AWZ6795
	1..	50 Y DRIVE ASSY	AWV2035
⚠	1..	POWER SUPPLY UNIT	AXY1068

50 ADDRESS ASSY

Mark	No.	Description	Part No.
		[ADR LOGIC BLOCK]	
		SEMICONDUCTORS	
		IC1501	PEE001B
		COILS AND FILTERS	
		F1501-F1503	ATF1194
		CAPACITORS	
		C1553,C1556,C1559,C1560,C1563 (330p/100V)	ACG1105
		C1501,C1502 (47/6.3V)	ACH1357
		C1503-C1507,C1152,C1555	CKSSYF104Z16
		C1558,C1561,C1564	CKSSYF104Z16
		RESISTORS	
		R1510,R1519,R1522,R1526	RAB4C470J
		R1505-R1509	RS1/16SS1000F
		R1513-R1518	RS1/16SS470J
		Other Resistors	RS1/16S###J
		OTHERS	
		CN1501 40P FFC CONNECTOR	AKM1215
		[ADR RESONANCE BLOCK]	
		SEMICONDUCTORS	
		IC1601-IC1603	TND304S
		Q1604	2SA1163
		Q1601	HAT1081R
		Q1602,Q1603	HAT3019R
		D1601	1SS302
		D1608,D1609,D1617,D1618	EC10UA20
		D1610,D1611,D1616,D1619,D1620	EC11FS2
		D1604,D1612	MA126
		D1602,D1606,D1607,D1614,D1615	UDZS15B
		D1621,D1622	UDZS24B
		COILS AND FILTERS	
		L1601,L1602	ATH1135
		CAPACITORS	
		C1609,C1615 (0.47/100V)	ACE1171
		C1605,C1607,C1608,C1613,C1614 (0.01/100V)	ACG1101
		C1601,C1602 (56/80V)	ACH1405
		C1618 (47/6.3V)	ACH1357
		C1603 (47/16V)	ACH1391
		C1604,C1606,C1612	CKSSYF104Z16

Mark	No.	Description	Part No.
		RESISTORS	
A		R1631 (10,1/2W)	ACN1174
		R1632	RS1/16S1502F
		R1633	RS1/16S1202F
		Other Resistors	RS1/16S###J

50 SCAN A ASSY

		SEMICONDUCTORS	
		IC3001-IC3006	AN16003A-K
		D3001	KU10N16
		CAPACITORS	
B		C3001,C3002,C3012,C3013 (0.1/250V)	ACG1088
		C3023,C3024,C3034,C3035 (0.1/250V)	ACG1088
		C3045,C3046,C3056,C3057 (0.1/250V)	ACG1088
		C3005,C3008,C3016,C3019,C3026	CCSRCH101J50
		C3029,C3037,C3040,C3048,C3051	CCSRCH101J50
		C3060,C3063	CCSRCH101J50
		C3004	CCSRCH151J50
		C3007,C3018,C3033,C3044,C3050	CCSRCH181J50
C		C3062	CCSRCH181J50
		C3006,C3011,C3017,C3022	CCSRCH331J50
		C3031,C3032,C3042,C3043,C3049	CCSRCH331J50
		C3055,C3061,C3066	CCSRCH331J50
		C3009,C3010,C3020,C3021,C3028	CCSRCH390J50
		C3030,C3039,C3041,C3053,C3054	CCSRCH390J50
		C3064,C3065	CCSRCH390J50
		C3003,C3014,C3025,C3036,C3047	CKSRYB105K6R3
		C3058	CKSRYB105K6R3
		RESISTORS	
D		R3003,R3011,R3017,R3025,R3030	RAB4C221J
		R3036	RAB4C221J
		Other Resistors	RS1/16S###J
		OTHERS	
		CN3001 15P CONNECTOR	AKP1218
		K3001,K3004,K3009,K3015,K3017 TEST PIN	AKX9002
		K3019,K3021 TEST PIN	AKX9002

50 SCAN B ASSY

		SEMICONDUCTORS	
E		IC3201-IC3206	AN16003A-K
		D3201	KU10N16
		CAPACITORS	
		C3201,C3211,C3212,C3222,C3223 (0.1/250V)	ACG1088
		C3233,C3234,C3244,C3245 (0.1/250V)	ACG1088
		C3255,C3256,C3266 (0.1/250V)	ACG1088
		C3203,C3204,C3214,C3215,C3226	CCSRCH101J50
F		C3228,C3237,C3239,C3247,C3251	CCSRCH101J50
		C3258,C3259	CCSRCH101J50
		C3258,C3259	CCSRCH101J50
		C3262	CCSRCH151J50
		C3261	CCSRCH181J50
		C3205,C3210,C3216,C3221	CCSRCH331J50
		C3230,C3231,C3241,C3242,C3248	CCSRCH331J50
		C3254,C3260,C3265	CCSRCH331J50
		C3208,C3209,C3219,C3220,C3227	CCSRCH390J50
		C3229,C3238,C3240,C3252,C3253	CCSRCH390J50
		C3263,C3264	CCSRCH390J50
		C3202,C3213,C3224,C3235,C3246	CKSRYB105K6R3
		C3257	CKSRYB105K6R3
		RESISTORS	
		R3202,R3210,R3216,R3224,R3229	RAB4C221J
		R3235	RAB4C221J
		Other Resistors	RS1/16S###J
		OTHERS	
		CN3201 15P CONNECTOR	AKP1218
		K3203,K3208,K3214,K3216,K3218 TEST PIN	AKX9002
		K3220,K3221 TEST PIN	AKX9002

X CONNECTOR A ASSY

This assembly has no service part.

X CONNECTOR B ASSY

This assembly has no service part.

PANEL IF ASSY

		[PANEL IF BLOCK]	
		SEMICONDUCTORS	
		IC4002	24LC02B(I)SN
	⚠	IC4003	PQ033EZ01ZP
		IC4006	TC74VHC541FT
		Q4007	DTA143EUA
		Q4004,Q4008,Q4009,Q4012	DTC143EUA
		Q4014-Q4016	DTC143EUA
		Q4005,Q4006,Q4010,Q4013,Q4017	RN1901
		Q4011	RN2901
		Q4001	SM6K2
		D4006	1SS355
		D4001-D4004,D4007	RB751V-40
	⚠	D4005	UDZS5.1B
		COILS AND FILTERS	
		F4001,F4002	ATF1194
		L4001	LCTAW221J3225
		CAPACITORS	
		C4005,C4006	CCSRCH100D50
		C4019	CCSRCH101J50
		C4009,C4020	CCSRCH471J50
		C4011,C4018,C4021	CEAT101M10
		C4003,C4015	CEAT101M16
		C4004,C4010,C4012,C4014	CKSRYB103K50
		C4016,C4024,C4041	CKSSYF104Z16
		C4017	CKSRYF105Z10
		RESISTORS	

Mark	No.	Description	Part No.
	R4006		RAB4C101J
	Other Resistors		RS1/16S###J
OTHERS			
	CN4004	114P FFC CONNECTOR	AKM1216
	CN4003	DVI SOCKET (24P)	AKP1216
	CN4002	SOCKET (20P)	AKP1226
	K4002-K4012	TEST PIN	AKX9002
	CN4006	3P TOP POST	B3B-EH
[TMDS RX BLOCK]			
SEMICONDUCTORS			
	IC4201		24LC01B
	IC4206		BA8274F
	IC4205		PST3628UR
	IC4202		SII169CTG100
	Q4203		DTC143EUA
	Q4215		SM6K2
	D4203,D4204		1SS355
	D4202		UDZS6.8B
COILS AND FILTERS			
	F4201-F4204		ATF1194
	L4201		ATH1132
CAPACITORS			
	C4208,C4215,C4218,C4222,C4230		CCSRCH331J50
	C4262		CCSRCH471J50
	C4207,C4210,C4232,C4233,C4236		CCSRCH820J50
	C4241,C4244,C4258		CCSRCH820J50
	C4212,C4239,C4242,C4246		CEAT101M10
	C4202,C4237,C4238		CEAT470M10
	C4260		CKSRYB472K50
	C4205,C4206,C4217,C4267		CKSRYF105Z10
	C4203,C4204,C4209,C4211,C4213		CKSSYF104Z16
	C4234,C4235,C4240,C4243,C4245		CKSSYF104Z16
	C4247,C4252,C4256,C4259,C4261		CKSSYF104Z16
	C4271		CKSSYF104Z16
RESISTORS			
	R4241		RAB4C220J
	R4213-R4218,R4245,R4247		RAB4C470J
	R4253-R4255,R4257		RAB4C470J
	R4250		RS1/16S3900F
	Other Resistors		RS1/16S###J
OTHERS			
	K4203,K4207	TEST PIN	AKX9002

PANEL LED ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	D4751		SML-310MT
	D4752		SML-311UT
CAPACITORS			
⚠	C4751-C4753		CCSRCH101J50
OTHERS			
	CN4751	CONNECTOR 3P	B3B-ZR-3.4

PANEL KEY ASSY

Mark	No.	Description	Part No.
SWITCHES AND RELAYS			
	S4801-S4806		VSG1024
OTHERS			
	CN4801	6P FFC CONNECTOR	AKM1208

KEY CONTROL ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC4851		PD5719A
	D4851-D4853,D4855,D4856		1SS302
CAPACITORS			
⚠	C4856-C4858		CCSRCH101J50
	C4854		CEAT470M50
	C4853		CKSRYB103K50
RESISTORS			
	R4858		RAB4C182J
	Other Resistors		RS1/16S###J
OTHERS			
⚠	X4851	CERALOCK	ASS1162
	CN4851	6P FFC CONNECTOR	VKN1596

PANEL IR ASSY

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	Q4901		2SC4116
	D4902		1SS302
	D4901		1SS355
CAPACITORS			
	C4901		CEVW470M6R3
	C4903		CKSRYB102K50
	C4902		CKSRYB103K50
	C4904		CKSSYF104Z16
RESISTORS			
	Other Resistors		RS1/16S###J
OTHERS			
	U4901	REMOTE RECEIVER UNIT	RPM7240-H4

DIGITAL VIDEO ASSY

Mark	No.	Description	Part No.
[DIGITAL IF BLOCK]			
COILS AND FILTERS			
	F5001,F5002,F5004		ATF1194
RESISTORS			
	R5101-R5115,R5131		RAB4C470J
	Other Resistors		RS1/16S###J
OTHERS			
	CN5001	114P FFC CONNECTOR	AKM1216
	K5002-K5004,K5007	TEST PIN	AKX9002
	CN5002	10P CONNECTOR	B10B-PH-SM3

Mark	No.	Description	Part No.
		[MODULE UCOM BLOCK]	
		SEMICONDUCTORS	
	IC5206		24LC04B(I)SN
	IC5201		M30626FHPGP-P
	IC5205		PST3628UR
	IC5208		TC74VHC08FT
	IC5213		TC74VHC123AFT
	IC5214,IC5215		TC74VHC32FT
	IC5211,IC5212		TC74VHC541FT
	IC5209		TC7W126FU
	Q5201		2SJ461A
	D5207-D5212		1SS301
	D5217,D5218		1SS355
	D5201		SML-310LT
		SWITCHES AND RELAYS	
	S5201		ASH1047
		CAPACITORS	
	C5213,C5225 (47/6.3V)		ACH1357
	C5206,C5223,C5231		CKSRYB102K50
	C5245-C5264		CKSRYB102K50
	C5232		CKSRYB104K16
	C5230		CKSRYB105K6R3
	C5205		CKSRYB472K50
	C5201-C5204,C5208,C5210-C5212		CKSSYF104Z16
	C5218,C5224,C5226,C5227		CKSSYF104Z16
	C5243,C5244		CKSSYF104Z16
		RESISTORS	
	R5209,R5211,R5212,R5235		RAB4C101J
	R5254,R5255,R5265,R5266		RAB4C101J
	R5205		RAB4C103J
	R5270,R5271		RAB4C472J
	R5256,R5257		RAB4C474J
	Other Resistors		RS1/16S###J
		OTHERS	
	CN5201 PLUG 8-P		AKM1225
	K5201 TEST PIN		AKX9002
⚠	X5201 CERAMIC RESONATOR		ASS1178
	CN5202 3P PH CONNECTOR		B3B-PH-SM3
		[PANEL FLASH BLOCK]	
		SEMICONDUCTORS	
	IC5305		MBM29PL160BD-75PTFN
	IC5303		PST3612UR
	IC5301		PST3628UR
	IC5302		TC74VHC08FT
	Q5301		RN1901
	D5301-D5310		1SS302
		CAPACITORS	
	C5320		CCSRCH470J50
	C5304,C5307		CKSRYB102K50
	C5311,C5314		CKSRYB104K16
	C5303,C5306		CKSRYB472K50
	C5301,C5302,C5305,C5309,C5313		CKSSYF104Z16
	C5316		CKSSYF104Z16
		RESISTORS	
	R5317,R5318		RAB4C101J
	Other Resistors		RS1/16S###J

Mark	No.	Description	Part No.
		OTHERS	
	CN5301 PLUG 15-P		AKM1232
	K5301 TEST PIN		AKX9002
⚠	X5302 CRYSTAL OSCILLATOR		ASS1174
⚠	X5301 CRYSTAL OSCILLATOR		ASS1176
		[IC4 BLOCK]	
		SEMICONDUCTORS	
	IC5401		PD5856A
	D5401		SML-310LT
	D5402		SML-310MT
		COILS AND FILTERS	
	F5401,F5403,F5409,F5410		ATF1194
		CAPACITORS	
	C5401,C5413,C5417,C5424 (100/6.3V)		ACH1396
	C5434,C5435		CKSRYB102K50
	C5402-C5412,C5414-C5416		CKSSYF104Z16
	C5418-C5423,C5425-C5431		CKSSYF104Z16
		RESISTORS	
	R5406,R5421		RAB4C101J
	R5408-R5413,R5415,R5416,R5419		RAB4C220J
	R5422		RAB4C220J
	R5405		RS1/16S5601F
	Other Resistors		RS1/16S###J
		OTHERS	
	K5401 TEST PIN		AKX9002
		[ADDRESS CN BLOCK]	
		RESISTORS	
	Other Resistors		RS1/16S###J
		OTHERS	
	CN5521 50P CONNECTOR		AKM1201
⚠	CN5501-CN5508 40P CONNECTOR		AKM1217
	CN5511 30P FFC CONNECTOR		AKM1218
		[DIGITAL DD CON BLOCK]	
		SEMICONDUCTORS	
⚠	IC5602		PQ05DZ11
⚠	IC5603		PQ09DZ11
⚠	U5601		AXY1066
	Q5601,Q5603		HN1C01FU
	Q5605		RN1901
	D5602,D5603,D5609,D5610		1SS355
	D5601		HZU2.2B
	D5604		UDZS5.1B
		CAPACITORS	
	C5601,C5603,C5607,C5614,C5616 (100/16V)		ACH1394
	C5602,C5604,C5615,C5617		CKSRYB103K50
	C5605,C5606,C5610		CKSSYF104Z16
		RESISTORS	
	R5601 (1,1/2W)		ACN1162
	R5627 (3.3,1/2W)		ACN1168
	Other Resistors		RS1/16S###J

Mark	No.	Description	Part No.
OTHERS			
⚠	CN5601	11P CONNECTOR	B11B-PH-SM3
⚠	CN5602	7P CONNECTOR	B7B-PH-SM3

HD SP TERMINAL ASSY

COILS AND FILTERS

	L3701,L3702	ATF1206

CAPACITORS

⚠	C3701-C3704	CCSRCH101J50
	C3713-C3716	CCSRCH221J50
	C3709,C3710	CKSRYB332K50
	C3711,C3712	CKSRYF473Z50

RESISTORS

	R3701-R3704	RD1/2MMF100J

OTHERS

	J3701 6P HOUSING WIRE	ADX2838
	CN3701 SPEAKER TERMINAL	AKE1060
⚠	3701 SPEAKER SHIELD A	ANK1710
⚠	3702 SPEAKER SHIELD B	ANK1711

HD AUDIO AMP ASSY

SEMICONDUCTORS

	IC3502	BD3869AS
	IC3504	LA4625
	IC3501	NJM2195L
	IC3503	NJM7809FA
	Q3501,Q3502,Q3507,Q3510,Q3511	2SA1162
	Q3503,Q3504,Q3508	2SC2712
	Q3512	DTC124EK
	D3501-D3504	1SS355

CAPACITORS

	C3525	CCSRCH221J50
	C3501-C3504,C3520,C3528-C3532	CEAT100M50
	C3505,C3526,C3549,C3557,C3564	CEAT101M16
	C3519	CEAT1R0M50
	C3536	CEAT220M50
	C3537,C3538	CEAT2R2M50
	C3551,C3552	CEAT330M25
	C3566	CEHAT101M10
	C3561	CEHAT101M16
	C3562,C3565	CEHAT220M50
	C3559,C3560	CEHAT2R2M50
	C3509	CEHAT331M16
	C3507	CEHAT471M25
	C3571	CEHAT472M25
	C3563	CEHATR47M50
	C3512,C3522,C3572	CFTLA103J50
	C3511,C3513-C3518,C3533,C3534	CFTLA104J50
	C3545-C3548,C3573-C3576	CFTLA104J50
	C3521	CFTLA333J50
	C3524	CFTLA334J50
	C3523	CFTLA474J50
	C3506,C3508,C3510,C3527,C3535	CKSRYB103K50
	C3550,C3558	CKSRYB103K50
	C3543,C3544	CQMA222J50

Mark	No.	Description	Part No.
RESISTORS			
	R3599-R3602		RD1/2MMF2R2J
	Other Resistors		RS1/16S###J
OTHERS			
	3511 AUDIO HEATSINK		ANH1612
	CN3504 3P CONNECTOR		B3P-VH
	3512-3515 SCREW		VBB30P100FNI
	KN3501,KN3502 WRAPPING TERMINAL		VNF1084

50 X DRIVE ASSY

[50 X LOGIC BLOCK]

SEMICONDUCTORS

	IC1002	TC74ACT540FT
	IC1001	TC74ACT541FT
	IC1003	TC74VHC08FT

CAPACITORS

	C1001	CEHAT470M25
	C1002-C1004	CKSRYB104K16

RESISTORS

	R1001,R1002,R1005	RAB4C470J
	R1003,R1004,R1007	RAB4C472J

OTHERS

	CN1001 30P FFC CONNECTOR	AKM1218

[50 X RESONANCE BLOCK]

SEMICONDUCTORS

	IC1103	BA10393F
	IC1101,IC1102	TND506MD
	Q1113	2SC2412K
	Q1102,Q1103,Q1111,Q1112	2SK3560
	Q1105,Q1106,Q1108,Q1109	2SK3723
	Q1101,Q1104,Q1107,Q1110	CPH5506
	D1131	1SS133
	D1109,D1122	1SS302
	D1101,D1102,D1104,D1105	EC11FS4
	D1107,D1108,D1111,D1114-D1117	EC11FS4
	D1120,D1121,D1127,D1128	EC11FS4
	D1103,D1113,D1118	FCU20A30
	D1124,D1125,D1129,D1130	FCU20A30
	D1110,D1123	UDZS16B

COILS AND FILTERS

	L1104,L1103,L1105	ATH1119
	L1104	ATH1155
	L1102	ATH1156
	L1101	LFEA470J

CAPACITORS

	C1112,C1113,C1114,C1125,C1126 (3.3/250V)	ACE1168
	C1127 (3.3/250V)	ACE1168
	C1111,C1124 (100p/630V)	ACG1104
	C1109,C1119 (0.1/630V)	ACG1108
	C1101,C1105,C1116,C1117	CCSRCH331J50
	C1128,C1130-C1132	CKSRYB104K16
	C1102,C1118	CKSRYB105K6R3
	C1104,C1108,C1115,C1122	CKSYB105K25

Mark No.	Description	Part No.
	RESISTORS	
	R1154	RD1/4PU390J
A	R1116,R1122	RS1/10S1003F
	R1133,R1143-R1145	RS1/10S100J
	R1103,R1106,R1110,R1111,R1118	RS1/10S2R2J
	R1119,R1153,R1123,R1126	RS1/10S2R2J
	R1136	RS1/16S1202F
	R1139	RS1/16S3301F
	R1130	RS1/16S5601F
	R1134	RS1/16S8201F
	R1113,R1128	RS1MMF101J
	VR1101-VR1104	CCP1390
	Other Resistors	RS1/16S###J
B		
	[50 X SUS BLOCK]	
	SEMICONDUCTORS	
	IC1202	HCPL-M611
	IC1205	NJM2872F05
	IC1203,IC1207	STK795-512
	IC1208	TLP181(P-GR)
	IC1204,IC1206	TND301S
	Q1207	2SC2412K
	Q1203	2SD1898
	Q1302	2SJ522
C	Q1301	2SK2503
	Q1205	2SK3116-Z
	Q1206,Q1208	DTC124EK
	Q1201	HN1B04FU
	D1212	1SS302
	D1211,D1213,D1216	1SS355
	D1201,D1207	EC10QS04
	D1204,D1301	EC11FS4
	D1214	EC8FS6
	D1208	UDZS5.6B
D		
	COILS AND FILTERS	
	L1204,L1205	ATH1112
	L1202	LFEA100J
	L1203,L1206	LFEA470J
	CAPACITORS	
	C1214-C1217,C1227-C1230	ACE1163
	C1233 (0.12/250V)	ACE1169
	C1244 (0.1/250V)	ACE1170
	C1209 (0.1/630V)	ACG1092
	C1219,C1231	ACH1358
	C1224	CEHAT101M16
E	C1301	CEHAT221M25
	C1203,C1207,C1210,C1220,C1223	CEHAT470M25
	C1238,C1239	CEHAT470M25
	C1235	CKSRYB102K50
	C1213,C1225,C1240,C1241,C1243	CKSRYB104K16
	C1202,C1205,C1206,C1212,C1302	CKSRYF104Z50
	RESISTORS	
	R1230 (2.2, 1/2W)	ACN1166
	R1208,R1321,R1322 (10,1/2W)	ACN1174
	R1304 (560,1/2W)	ACN1195
F	R1305 (1k,1/2W)	ACN1198
	R1301,R1302,R1314	RS1/10S122J
	R1226,R1251	RS1MMF331J

Mark No.	Description	Part No.
	R1235,R1236	RS2MMF121J
	Other Resistors	RS1/16S###J
	OTHERS	
	KN1201-KN1205,KN1208,KN1209 (GROUND PLATE)	ANK-142
	KN1210-KN1212,KN1213,KN1214 (GROUND PLATE)	ANK-142
	CN1201 12P CONNECTOR	B12B-EH
	[50 X D-D CON BLOCK]	
	SEMICONDUCTORS	
	IC1404	AN1431M
	IC1402	MIP161
	IC1401,IC1403	TLP181(P-GR)
	Q1401	2SA1037K
	Q1402	2SC2412K
	D1407,D1408	EC11FS2
	D1404	EC8FS6
	D1401,D1403	UDZS5.6B
	COILS AND FILTERS	
	L1401	ATH1110
	T1401	ATK1153
	CAPACITORS	
	C1401,C1402 (22/315V)	ACH1361
	C1404	CEHAT101M16
	C1405	CEHAT101M25
	C1409	CEHAT331M16
	C1403,C1407,C1408,C1411	CKSRYB104K16
	C1406	CKSRYF104Z50
	RESISTORS	
	R1405,R1406,R1408-R1410,R1414	RS1/10S3602F
	R1420	RS1/16S1101F
	R1403	RS1/16S2702F
	R1401,R1404	RS1/16S4701F
	R1417	RS1/16S7500F
	VR1401 (1k)	CCP1390
	Other Resistors	RS1/16S###J
	OTHERS	
	1002 CARD SPACER	AEC1957
	1001 DRIVE SIRICON SHEET A	AEH1062
	1001 PLATE X	ANG2622
	1001 DRIVE HEATSINK A	ANH1613
	1001 SCREW	BMZ30P080FZK
	1002 SCREW	PMB30P060FNI

PANEL SENSOR ASSY

	SEMICONDUCTORS	
	IC1072	MM1522XU
	IC1071	MM3012XN
	CAPACITORS	
	C1075 (47/6.3V)	ACH1357
	C1074	CKSRYB103K50
	C1071,C1076	CKSRYB104K16
	C1072,C1073	CKSRYF105Z10

Mark No.	Description	Part No.
RESISTORS		
	R1076,R1078	RS1/16S1001F
	Other Resistors	RS1/16S###J

50 Y DRIVE ASSY

OTHERS		
2002	CARD SPACER	AEC1957
2001	DRIVE SIRICON SHEET A	AEH1062
2001	PLATE Y	ANG2557
2001	DRIVE HEATSINK A	ANH1613
2001	SCREW	BMZ30P080FZK
2002	SCREW	PMB30P060FNI
[50 Y LOGIC BLOCK]		
SEMICONDUCTORS		
	IC2002	TC74ACT540FT
	IC2001,IC2003	TC74ACT541FT
	IC2005	TC74VHC08FT
	IC2004	TC74VHC541FT
	Q2001	DTC124EK
CAPACITORS		
	C2001	CEHAT470M16
	C2010,C2011	CKSRYB104K16
	C2002-C2006	CKSRYF104Z50
RESISTORS		
	R2018,R2019	RAB4C102J
	R2002,R2004,R2013-R2015	RAB4C470J
	R2005,R2006,R2012,R2016,R2017	RAB4C472J
	Other Resistors	RS1/16S###J
OTHERS		
CN2001	50P CONNECTOR	AKM1201
[50 Y RESONANCE BLOCK]		
SEMICONDUCTORS		
	IC2211	BA10393F
	IC2201,IC2202	TND506MD
	Q2213	2SC2412K
	Q2202,Q2211,Q2212,Q2214	2SK3560
	Q2205,Q2206,Q2208,Q2209	2SK3723
	Q2201,Q2204,Q2207,Q2210	CPH5506
	D2230	1SS133
	D2209,D2223	1SS302
	D2202-D2205,D2207,D2208	EC11FS4
	D2213,D2214,D2216-D2219,D2222	EC11FS4
	D2226,D2227	EC11FS4
	D2201,D2206,D2211,D2215,D2220	FCU20A30
	D2228,D2229	FCU20A30
	D2210,D2224	UDZS16B
COILS AND FILTERS		
	L2203,L2205	ATH1119
	L2204	ATH1155
	L2202	ATH1156
	L2201	LFEA470J

Mark No.	Description	Part No.
CAPACITORS		
	C2212,C2213,C2214,C2225,C2226 (3.3/250V)	ACE1168
	C2227 (3.3/250V)	ACE1168
	C2211,C2224 (100p/630V)	ACG1104
	C2210,C2223 (0.1/630V)	ACG1108
	C2202,C2205,C2216,C2217	CCSRCH331J50
	C2230,C2232,C2233,C2235	CKSRYB104K16
	C2203,C2218	CKSRYB105K6R3
	C2201,C2208,C2215,C2219	CKSYB105K25
RESISTORS		
	R2254	RS1/4PU390J
	R2240,R2241	RS1/10S1003F
	R2244-R2247	RS1/10S100J
	R2204,R2205,R2211,R2213,R2220	RS1/10S2R2J
	R2221,R2224,R2228,R2253	RS1/10S2R2J
	R2234	RS1/16S1202F
	R2235	RS1/16S3301F
	R2233	RS1/16S5601F
	R2242	RS1/16S8201F
	R2215,R2230	RS1MMF101J
	VR2201-VR2204 (1k)	CCP1390
	Other Resistors	RS1/16S###J
[50 Y SUS BLOCK]		
SEMICONDUCTORS		
	IC2302,IC2308	HCPL-M611
	IC2305	NJM2872F05
	IC2303,IC2307	STK795-513
	IC2301,IC2304,IC2309	TND301S
	Q2310	2SC2412K
	Q2303,Q2307	2SD1898
	Q2301	2SJ522
	Q2302,Q2308,Q2312	2SK3325-Z
	Q2309	HN1B04FU
	D2302	1SS302
	D2319,D2320	EC10QS04
	D2305	EC11FS4
	D2301	UDZS16B
	D2306,D2318	UDZS5.6B
COILS AND FILTERS		
	L2306,L2307	ATH1112
	L2304	LFEA100J
	L2308	LFEA101J
	L2301,L2302,L2305	LFEA470J
CAPACITORS		
	C2309-C2312,C2326,C2327 (1.5/300V)	ACE1163
	C2329,C2330 (1.5/300V)	ACE1163
	C2314 (0.047/250V)	ACE1165
	C2302 (0.1/630V)	ACG1092
	C2316,C2331 (300/280V)	ACH1358
	C2303 (22/315V)	ACH1361
	C2336 (220/100V)	ACH1393
	C2306,C2334	CEHAT221M25
	C2308,C2324,C2339,C2340	CEHAT470M16
	C2304,C2320,C2338	CEHAT470M25
	C2305,C2322,C2323,C2325,C2333	CKSRYB104K16

Mark	No.	Description	Part No.
	C2341		CKSRYB104K16
	C2301,C2307,C2328		CKSRYF104Z50
	RESISTORS		
	R2332 (2.2,1/2W)		ACN1166
	R2364,R2365 (10,1/2W)		ACN1174
	R2309		RS1MMF132J
	R2310,R2311		RS1MMF472J
	R2312-R2314,R2322,R2323		RS3LMF100J
	R2348,R2352,R2358,R2359		RS3LMF1R8J
	Other Resistors		RS1/16S###J
	OTHERS		
	KN2301-KN2305,KN2310,KN2311 (GROUND PLATE)		ANK-142
	KN2312,KN2314,KN2315,KN2316 (GROUND PLATE)		ANK-142
	CN2301 11P CONNECTOR		B11B-EH
	[50 Y SCAN BLOCK]		
	SEMICONDUCTORS		
	IC2101,IC2103-IC2106		HCPL-M611
	IC2108,IC2109		HCPL-M611
	IC2102,IC2107		TC74ACT540FT
	COILS AND FILTERS		
	L2101-L2103		LFEA100J
	CAPACITORS		
	C2104,C2111,C2116,C2117 (47/160V)		ACH1392
	C2101,C2107,C2113		CEHAT221M16
	C2102,C2103,C2105,C2106		CKSRYB104K16
	C2108-C2110,C2112,C2114		CKSRYB104K16
	RESISTORS		
	R2121,R2128		RAB4C472J
	Other Resistors		RS1/16S###J
	OTHERS		
	CN2101,CN2102 15P CONNECTOR		AKM1200
	[50 Y D-D CON BLOCK]		
	SEMICONDUCTORS		
	IC2410-IC2412		AN1431M
	IC2406		BA10358F
	IC2401		MIP0223SC
	IC2402-IC2405,IC2407-IC2409		TLP181(P-GR)
	Q2402,Q2407		2SA1037K
	Q2410		2SA1163
	Q2417		2SA1535
	Q2411-Q2414,Q2416		2SC2412K
	Q2405		2SC2713
	Q2403		2SD1664
	Q2401,Q2404		2SD1898
	Q2415		HN1C01FU
	D2430		1SS301
	D2410,D2419,D2436		1SS302
	D2409,D2418		1SS355
	D2404-D2407		EC11FS2
	D2403,D2414		EC11FS4
	D2402		EC8FS6
	D2427		RD91PA
	D2401		U1ZB330
	D2412, D2413, D2422		UDZS15B
	D2425,D2426		UDZS27B
	D2415		UDZS33B
	D2432		UDZS4.3B
	D2423,D2431		UDZS5.6B
	COILS AND FILTERS		
	T2402		ATK1156
	T2403		ATK1157
	T2401		ATK1158
	L2402		LFEA100J
	L2401		LFEA101J
	L2403		LFEA470J
	CAPACITORS		
	C2406 (100/160V)		ACH1360
	C2401 (22/315V)		ACH1361
	C2427		CEHAT100M50
	C2403		CEHAT101M16
	C2405,C2407,C2417		CEHAT101M25
	C2414		CEHAT221M16
	C2410		CEHAT221M25
	C2411		CEHAT331M25
	C2420		CEHAT470M2A
	C2409,C2419		CKSRYB103K50
	C2402,C2412,C2413,C2423,C2425		CKSRYB104K16
	C2431,C2432,C2434-C2436		CKSRYB104K16
	C2441-C2443		CKSRYB104K16
	C2415,C2421,C2428		CKSRYB105K6R3
	C2404,C2408,C2416,C2418,C2426		CKSRYF104Z50
	C2429		CKSRYF104Z50
	RESISTORS		
	R2429 (180k,1/2W)		ACN1225
	R2435,R2439		RS1/10S2202F
	R2402-R2404		RS1/10S3902F
	R2442		RS1/16S1201F
	R2468		RS1/16S1202F
	R2424		RS1/16S2001F
	R2420,R2427,R2438		RS1/16S2201F
	R2467		RS1/16S3301F
	R2457-R2460		RS1/16S4701F
	R2506		RS3LMF151J
	VR2401,VR2402 (1k)		CCP1390
	Other Resistors		RS1/16S###J
	OTHERS		
	2401 HEATSINK		ANH1614
	2401 SCREW		BBZ30P080FZK

6. ADJUSTMENT

6.1 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

■ 50 X DRIVE Assy

• When replaced

VRN Voltage adjustment.

■ 50 Y DRIVE Assy

• When replaced

No adjustment is required, because necessary adjustment has already been made.

■ PANEL IF Assy

• When replaced

Replace the IC4201 from old assemble to new one.

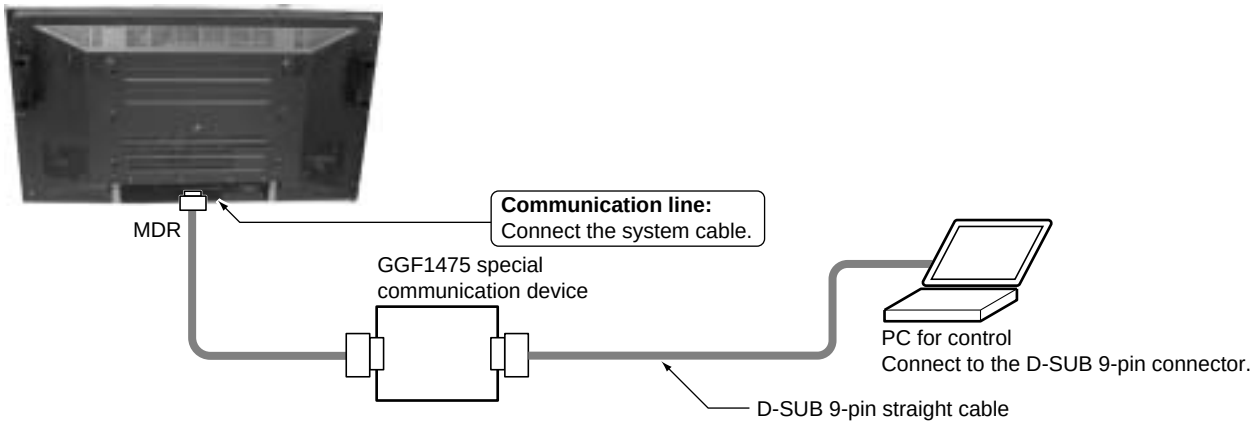
6.2 COMMAND

6.2.1 RS232C COMMAND

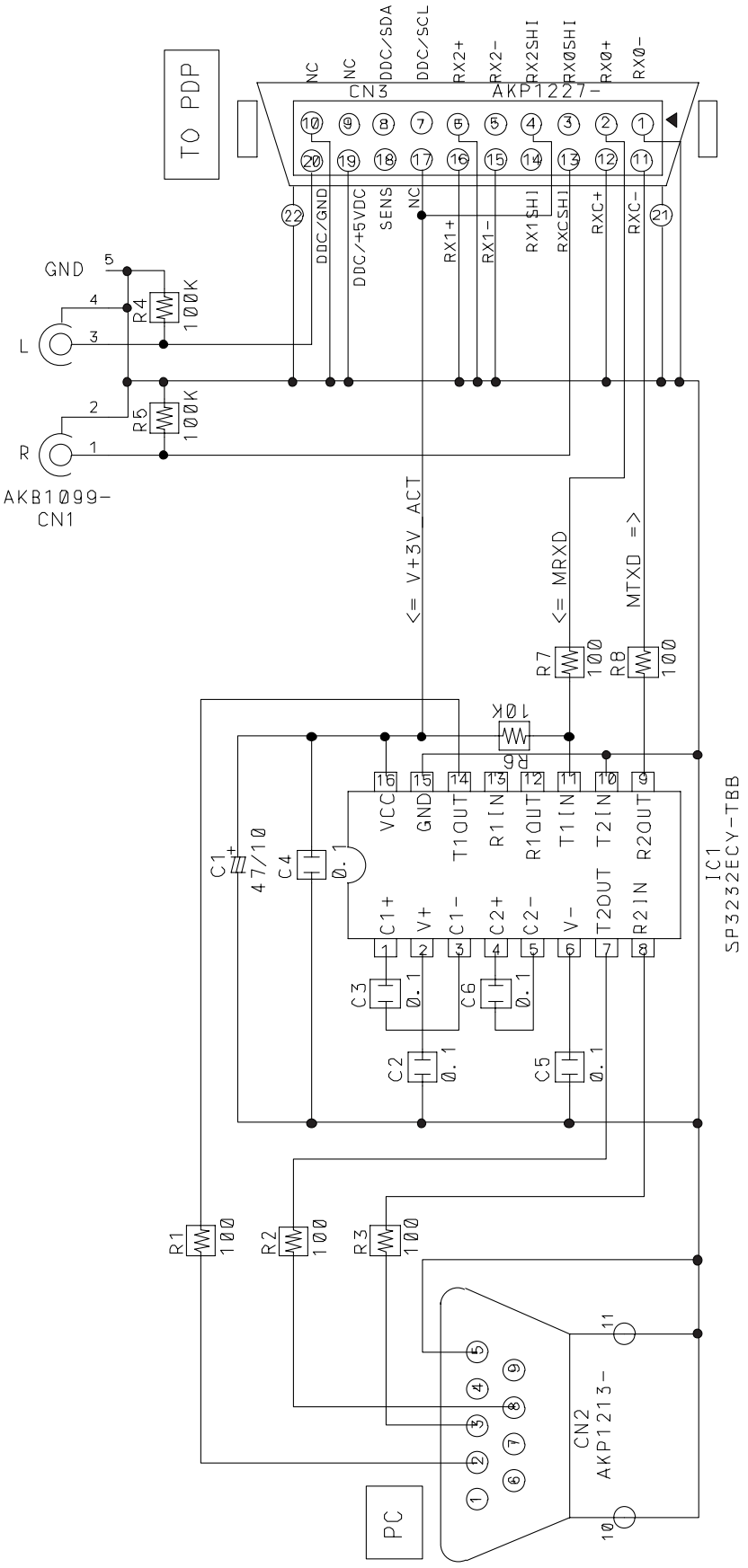
- The panel control items for the PDP-504 system can be controlled with the RS-232C commands by connecting a PC through the GGF1475 special communication device when the Media Receiver is not connected with the PDP.

Note: The special communication device for the PDP-503P cannot be used with this unit, because the control lines within the MDR cable are different.

■ Connection



• Schematic diagram of Jig



• RS-232C Commands for the module microcomputer

Command Name			Function	Validity of direct numeric input		
				Validity	Lower limit	Upper limit
1	ABL	ABL ADJUSTMENT	Adjusting the upper limit of the power	❍	0000	255
2	AMN	AUDIO MUTE NO	Turning off the audio muting			
3	AMY	AUDIO MUTE YES	Turning on the audio muting			
4	BAL	BALANCE ADJUSTMENT	Adjusting the audio balance	❍	98	158
5	BAS	BASS ADJUSTMENT	Adjusting the audio bass	❍	121	135
6	BCP	BACKUP COPY	Copying the backup data in the EEPROM			
7	CTM	CLEAR TRAP MEMORY	Clearing the TRAP log that records detection of opening of the rear cover			
8	DRF	DRIVE OFF	Driving off			
9	DRN	DRIVE ON	Driving on			
10	F50	FREQENCY VIDEO 50Hz	Setting the frequency in Mask mode to 50 Hz (VIDEO)			
11	F60	FREQENCY VIDEO 60Hz	Setting the frequency in Mask mode to 60 Hz (VIDEO)			
12	F61	FREQENCY PC 60Hz	Setting the frequency in Mask mode to 60 Hz (PC)			
13	F70	FREQENCY PC 70Hz	Setting the frequency in Mask mode to 70 Hz (PC)			
14	F72	FREQENCY VIDEO 72Hz	Setting the frequency in Mask mode to 72 Hz (VIDEO)			
15	F75	FREQENCY VIDEO 75Hz	Setting the frequency in Mask mode to 75 Hz (VIDEO)			
16	FAJ	FINISH ADJUSTMENT	Z-number F003 to 0003			
17	FCN	FOCUS NO	Turning the FOCUS function off			
18	FCY	FOCUS YES	Turning the FOCUS function on			
19	GAJ	GET ADJUSTMENT	Obtaining various adjustment values			
20	GPD	GET POWER-DOWN	Obtaining the power-down-point log			
21	GPW	GET PANEL WHITE BALANCE	Obtaining the panel white-balance adjustment values			
22	GS1	GET STATUS 1	Obtaining information on the unit, such as the software version			
23	GS2	GET STATUS 2	Obtaining information on the status of the unit, such as the temperature			
24	GSD	GET SHUT DOWN	Obtaining information on shutdown			
25	LNN	LOUDNESS NO	Turning the Loudness function off			
26	LNY	LOUDNESS YES	Turning the Loudness function on			
27	M00	MASK MODE 0	Turning the Mask function off			
28	M01	MASK MODE 1	White raster (change in luminance level)			
29	M02	MASK MODE 2	White raster--zigzag, exact reverse--scan--gray--white raster			
30	M03	MASK MODE 3	White raster--zigzag, exact reverse--scan--gray--white raster			
31	M10	MASK MODE 10	H ramp (slant 1)			
32	M11	MASK MODE 11	H ramp (slant 4)			
33	M12	MASK MODE 12	H ramp (slant 1 shifting)			
34	M13	MASK MODE 13	H ramp (slant 4 shifting)			
35	M14	MASK MODE 14	V ramp (slant 1)			
36	M15	MASK MODE 15	Slanting ramp			
37	M20	MASK MODE 20	Window (for WB adjustment, Hi = 870, Lo = 102)			
38	M21	MASK MODE 21	Window (for WB adjustment, Hi = 1023, Lo = 102)			
39	M22	MASK MODE 22	Window (for measuring the peak luminance during WB adjustment, Hi = 1023)			
40	M23	MASK MODE 23	Window (for measuring the peak luminance, Hi = 1023, 4%)			
41	M24	MASK MODE 24	Window (for measuring the peak luminance, Hi = 1023, 1.25%)			
42	M25	MASK MODE 25	Window (vertical line with 1/7-width for measuring the stress)			
43	M26	MASK MODE 26	Window (magenta, green, and stripe for check)			
44	M27	MASK MODE 27	Window (green,magenta, and stripe for checker)			
45	M28	MASK MODE 28	Window (black & white [1 x 8], checker, for EMG check)			
46	M29	MASK MODE 29	Window (for WB adjustment, magenta = 512, yellow = 512)			
47	M2E	MASK MODE 2E	Wiper for erasing afterimage			
48	M2F	MASK MODE 2F	Mask for warning of cable disconnection			
49	M30	MASK MODE 30	ColorBar			
50	M31	MASK MODE 31	Slanted lines (for checking cable disconnection)			
51	M51	MASK MODE 51	Raster-white			
52	M52	MASK MODE 52	Raster-red			
53	M53	MASK MODE 53	Raster-green			
54	M54	MASK MODE 54	Raster-blue			
55	M55	MASK MODE 55	Raster-black			
56	M56	MASK MODE 56	Raster-cyan 1023			
57	M57	MASK MODE 57	Raster-magenta 1023			
58	M58	MASK MODE 58	Raster-yellow 1023			
59	M59	MASK MODE 59	Raster-cyan 274			
60	M60	MASK MODE 60	Raster-flesh color_50			
61	M61	MASK MODE 61	Raster-light purple_50			
62	M62	MASK MODE 62	Raster-sky blue_50			
63	M63	MASK MODE 63	Raster-red 779			
64	M64	MASK MODE 64	Raster-cyan 218			
65	M65	MASK MODE 65	Raster-cyan 448			

Command Name			Function	Validity of direct numeric input		
				Validity	Lower limit	Upper limit
66	M66	MASK MODE 66	Raster-flesh color_43			
67	M67	MASK MODE 67	Raster-red 640			
68	M68	MASK MODE 68	Raster-magenta 98			
69	M69	MASK MODE 69	Raster-sky blue 1_43			
70	M70	MASK MODE 70	Raster-sky blue 2_43			
71	M71	MASK MODE 71	Raster-light purple_43			
72	M72	MASK MODE 72	Raster-blue 60			
73	M73	MASK MODE 73	Raster-gray 512 (reservation)			
74	M74	MASK MODE 74	Raster-gray 512 (reservation)			
88	PBH	PANEL BLUE HIGH	Panel white-balance adjustment: Blue highlight	O	000	511
89	PBL	PANEL BLUE LOW	Panel white-balance adjustment: Blue low light	O	000	999
90	PCN	PC RGB NO	Setting input-signal type to video			
91	PCY	PC RGB YES	Setting input-signal type to PC			
92	PGH	PANEL GREEN HIGH	Panel white-balance adjustment: Green highlight	O	000	511
93	PGL	PANEL GREEN LOW	Panel white-balance adjustment: Green low light	O	000	999
94	PLA	BRIGHT ENHANCE A	Center luminance-compensation function on (no correspondence with APL)			
95	PLB	BRIGHT ENHANCE B	Center luminance-compensation function on (in correspondence with APL)			
96	PLN	BRIGHT ENHANCE NO	Center luminance-compensation function off			
97	POF	POWER OFF	Power off			
98	PON	POWER ON	Power on			
99	PRH	PANEL RED HIGH	Panel white balance adjustment-red highlight	O	000	511
100	PRL	PANEL RED LOW	Panel white-balance adjustment: Red low light	O	000	999
101	SCN	SYSTEM CABLE NO	Prohibiting monitoring of cable-disconnection detection			
102	SCY	SYSTEM CABLE YES	Permitting monitoring of cable-disconnection detection			
103	SRN	SRS NO	SRS function off			
104	SRY	SRS YES	SRS function on			
105	TBN	TRUBASS NO	TruBass function off			
106	TBY	TRUBASS YES	TruBass function on			
107	TRE	TREBLE ADJUSTMENT	Audio treble adjustment	O	121	135
108	TSN	TRAP SW NO	Prohibiting detection of opening of the rear case			
109	TSY	TRAP SW YES	Permitting detection of opening of the rear case			
110	UAJ	UN-ADJUSTMENT	Z-number 0003 to F003			
111	VOF	Vofs ADJUSTMENT	Vofs voltage reference-value adjustment	O	000	255
112	VOL	VOLUME	Audio volume adjustment	O	000	060
113	VSU	Vsus ADJUSTMENT	Vsus voltage reference-value adjustment	O	000	255
114	XD1	XSUS-D-1	XSUS-D-1 adjustment	O	000	255
115	XD2	XSUS-D-2	XSUS-D-2 adjustment	O	000	255
116	XU1	XSUS-U-1	XSUS-U-1 adjustment	O	000	255
117	XU2	XSUS-U-2	XSUS-U-2 adjustment	O	000	255
118	YD1	YSUS-D1-1	YSUS-D1-1 adjustment	O	000	255
119	YD2	YSUS-D1-2	YSUS-D1-2 adjustment	O	000	255
120	YD3	YSUS-D2-1	YSUS-D2-1 adjustment	O	000	255
121	YD4	YSUS-D2-2	YSUS-D2-2 adjustment	O	000	255
122	YU1	YSUS-U-1	YSUS-U-1 adjustment	O	000	255
123	YU2	YSUS-U-2	YSUS-U-2 adjustment	O	000	255

■ Command description

Command	Function
GAJ	Obtaining various adjustment values
GPD	Obtaining power-down-point log
GPW	Obtaining panel white-balance adjustment values
GS1	Obtaining information on the unit, such as the software version
GS2	Obtaining information on the status of the unit
GSD	Obtaining information on shutdown

GAJ: Obtaining data on ABL setting values, electronic-control adjustment values, and drive-system adjustment values

Order	Data	Size	Remarks
1	ABL table currently used	3 bytes	AB1 - AB3
2	Upper limit of power	3 bytes	000 - 255
3	Vsus adjustment value	3 bytes	000 - 255
4	Vofs adjustment value	3 bytes	000 - 255
5	X-SUS-U1 adjustment value (XU1)	3 bytes	000 - 255
6	X-SUS-U2 adjustment value (XU2)	3 bytes	000 - 255
7	X-SUS-D2 adjustment value (XD2)	3 bytes	000 - 255
8	X-SUS-D1 adjustment value (XD1)	3 bytes	000 - 255
9	Y-SUS-U1 adjustment value (YU1)	3 bytes	000 - 255
10	Y-SUS-U2 adjustment value (YU2)	3 bytes	000 - 255
11	Y-SUS-D1-2 adjustment value (YD2)	3 bytes	000 - 255
12	Y-SUS-D1-1 adjustment value (YD1)	3 bytes	000 - 255
13	Y-SUS-D2-2 adjustment value (YD4)	3 bytes	000 - 255
14	Y-SUS-D2-1 adjustment value (YD3)	3 bytes	000 - 255

Note: Ignore the 2-byte checksum at the end.

GPD: Obtaining power-down-point log on the panel

Order	Data	Size	Remarks
1	Latest "1st PD" data	1 byte	0-C or F
2	Latest "2nd PD" data	1 byte	0-C or F
3	Data of hour meter for the latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
4	Data on temperature for the latest PD (TEMP1)	3 bytes	000 - 255
5	Second latest "1st PD" data	1 byte	0-C or F
6	Second latest "2nd PD" data	1 byte	0-C or F
7	Data of hour meter for the second latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
8	Data on temperature for the second latest PD (TEMP1)	3 bytes	000 - 255
9	Third latest "1st PD" data	1 byte	0-C or F
10	Third latest "2nd PD" data	1 byte	0-C or F
11	Data of hour meter for the third latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
12	Data on temperature for the third latest PD (TEMP1)	3 bytes	000 - 255
13	Fourth latest "1st PD" data	1 byte	0-C or F
14	Fourth latest "2nd PD" data	1 byte	0-C or F
15	Data of hour meter for the fourth latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
16	Data on temperature for the fourth latest PD (TEMP1)	3 bytes	000 - 255
17	Fifth latest "1st PD" data	1 byte	0-C or F
18	Fifth latest "2nd PD" data	1 byte	0-C or F
19	Data of hour meter for the fifth latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
20	Data on temperature for the fifth latest PD (TEMP1)	3 bytes	000 - 255
21	Sixth latest "1st PD" data	1 byte	0-C or F
22	Sixth latest "2nd PD" data	1 byte	0-C or F
23	Data of hour meter for the sixth latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
24	Data on temperature for the sixth latest PD (TEMP1)	3 bytes	000 - 255
25	Seventh latest "1st PD" data	1 byte	0-C or F
26	Seventh latest "2nd PD" data	1 byte	0-C or F
27	Data of hour meter for the seventh latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
28	Data on temperature for the seventh latest PD (TEMP1)	3 bytes	000 - 255
29	Eighth latest "1st PD" data	1 byte	0-C or F
30	Eighth latest "2nd PD" data	1 byte	0-C or F
31	Data of hour meter for the eighth latest PD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
31	Data on temperature for the eighth latest PD (TEMP1)	3 bytes	000 - 255

Notes: • Ignore the 2-byte checksum at the end. • For details, see "Description on power-down."

• Description on power-down

Data	Power-down Point
0	No power-down
1	Not used (for MR-POWER)
2	Panel-POWER SUPPLY
3	SCAN
4	SCN-5V
5	Y-DRIVE
6	Y-DCDC
7	Y-SUS
8	ADR
9	X-DRIVE
A	X-DCDC
B	X-SUS
C	DIG-DCDC
D	Reservation
E	Reservation
F	Power-down point unidentified

GPW: Obtaining panel white-balance adjustment values

Order	Data	Size	Remarks
1	W/B table currently used	3 bytes	PT1 - PT3
2	Main contrast	4 bytes	0000 - 0511
3	Red contrast of W/B adjustment value	4 bytes	0000 - 0511
4	Green contrast of W/B adjustment value	4 bytes	0000 - 0511
5	Blue contrast of W/B adjustment value	4 bytes	0000 - 0511
6	Main brightness	4 bytes	0000 - 1023
7	Red brightness of W/B adjustment value	4 bytes	0000 - 1023
8	Green brightness of W/B adjustment value	4 bytes	0000 - 1023
9	Blue brightness of W/B adjustment value	4 bytes	0000 - 1023

Note: Ignore the 2-byte checksum at the end.

GS1: Obtaining information on the unit, such as the software version (1)

Order	Data	Size
1	Display data	3 bytes
2	Version of the module microcomputer	4 bytes
3	IC4-MANTA version	4 bytes
4	Sequence version (43VIDEO)	4 bytes
5	Sequence version (43PC)	4 bytes
6	Sequence version (50VIDEO)	4 bytes
7	Sequence version (50PC)	4 bytes
8	Version of the IF microcomputer	4 bytes
9	Version of the main microcomputer	4 bytes
10	IC3-MANTA version	4 bytes
11	Version of the OSD	4 bytes
12	Reserve	12 bytes

Note: Ignore the 2-byte checksum at the end.

GS6: Virsion (2)

Order	Data	Size
1	Display data	3 bytes
2 (∗1)	Version of DTV	4 bytes
3 (∗1)	Version of CC	4 bytes
4 (∗2)	PC - CARD	8 bytes
5 (∗2)	TEXT	60 bytes

(∗1) PU ONLY : Order 4,5 ∗∗
(∗2) PE ONLY : Order 2,3 ∗∗

(Reference) GS2: Obtaining information on the status of the unit

Order	Data	Size	Remarks
1	Notifying that the unit is shifting to Standby mode	1 byte	1: OK for shifting to Standby
2	Whether or not the main unit has been adjusted	1 byte	0: Adjusted, 1: Not adjusted
3	With/without backup for adjustment values	1 byte	0: With backup, 1: Without backup
4	Data on power-down	2 bytes	1st byte: 1stPD, 2nd byte: 2ndPD
5	Data on temperature (TEMP1)	3 bytes	0: Normal, 1: SD process completed, 2: In the process of SD warning
6	Abnormality in RST2 (power decrease of DC-DC converter)	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
7	IC4 communication failure	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
8	EEPROM communication failure	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
9	Audio failure	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
10	Volume IC communication failure	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
11	Backup ROM communication failure	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
12	Data on temperature (TEMP1) not obtained	1 byte	0: Normal, 1: SD process completed, 2: In the process of SD warning
13	Operational status of panel protection mechanism	1 byte	0: Protection mechanism not activated, 1: Protection mechanism activated
14	Reservation	9 bytes	*********
15	Hour meter	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute

Notes: • Ignore the 2-byte checksum at the end.
• The data expected to be used for service may be "5. Data on temperature" and "15. Hour meter".

GSD: Obtaining information on shutdown

Order	Data	Size	Remarks
1	Latest SD data	1 byte	0 - 5
2	Latest SD subcategory data	1 byte	0 - 2
3	Data of hour meter for the latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
4	Data on temperature for the latest SD (TEMP1)	3 bytes	000 - 255
5	Second latest SD data	1 byte	0 - 5
6	Second latest SD subcategory data	1 byte	0 - 2
7	Data of hour meter for the second latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
8	Data on temperature for the second latest SD (TEMP1)	3 bytes	000 - 255
9	Third latest SD data	1 byte	0 - 5
10	Third latest SD subcategory data	1 byte	0 - 2
11	Data of hour meter for the third latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
12	Data on temperature for the third latest SD (TEMP1)	3 bytes	000 - 255
13	Fourth latest SD data	1 byte	0 - 5
14	Fourth latest SD subcategory data	1 byte	0 - 2
15	Data of hour meter for the fourth latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
16	Data on temperature for the fourth latest SD (TEMP1)	3 bytes	000 - 255
17	Fifth latest SD data	1 byte	0 - 5
18	Fifth latest SD subcategory data	1 byte	0 - 2
19	Data of hour meter for the fifth latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
20	Data on temperature for the fifth latest SD (TEMP1)	3 bytes	000 - 255
21	Sixth latest SD data	1 byte	0 - 5
22	Sixth latest SD subcategory data	1 byte	0 - 2
23	Data of hour meter for the sixth latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
24	Data on temperature for the sixth latest SD (TEMP1)	3 bytes	000 - 255
25	Seventh latest SD data	1 byte	0 - 5
26	Seventh latest SD subcategory data	1 byte	0 - 2
27	Data of hour meter for the seventh latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
28	Data on temperature for the seventh latest SD (TEMP1)	3 bytes	000 - 255
29	Eighth latest SD data	1 byte	0 - 5
30	Eighth latest SD subcategory data	1 byte	0 - 2
31	Data of hour meter for the eighth latest SD	7 bytes	1st-5th byte: Hour, 6th-7th byte: Minute
32	Data on temperature for the eighth latest SD (TEMP1)	3 bytes	000 - 255

Notes: • Ignore the 2-byte checksum at the end.
• For details, see "Description on shutdown".

• Description of shutdown

Data	Factors of shutdown
0	No abnormality
1	IC4
2	Module microcomputer IIC
3	Abnormality in RST2 (power decrease of DC-DC converter)
4	Panel having high temperature
5	Audio failure (speakers short-circuited)
6	Reservation
7	Reservation
8	Reservation
9	Reservation
A	Reservation
B	Reservation
C	Reservation
D	Reservation
E	Reservation
F	Reservation

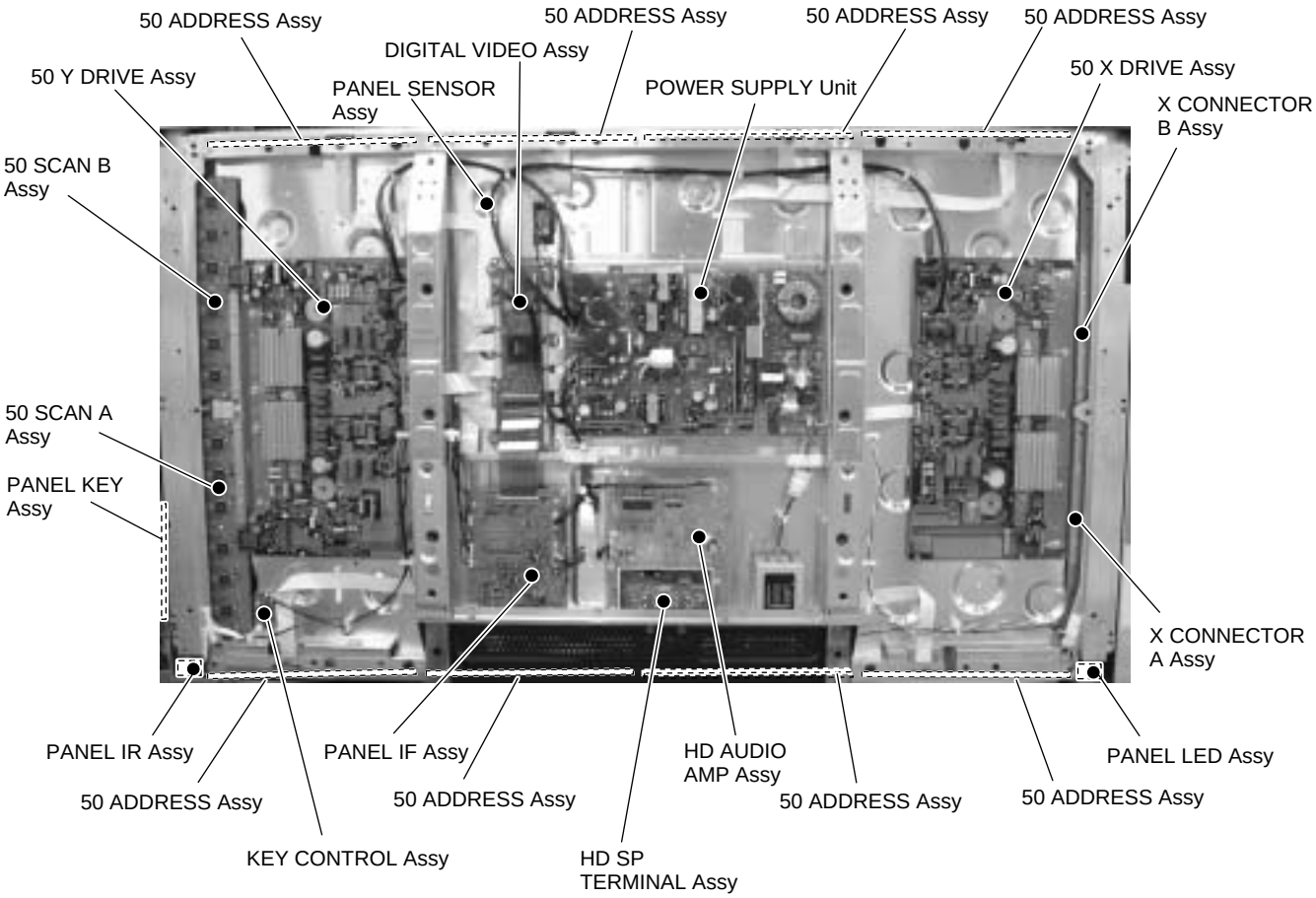
• Module microcomputer IIC: Data on SD subcategory

Data	Factors of shutdown
0	No subcategory
1	EEPROM (DIGITAL VIDEO Assy : IC5206)
2	EEPROM (PANEL IF Assy : IC4002)
3	Volume IC
4	Reservation
5	Reservation
6	Reservation
7	Reservation
8	Reservation
9	Reservation
A	Reservation
B	Reservation
C	Reservation
D	Reservation
E	Reservation
F	Reservation

7. GENERAL INFORMATION

7.1 DIAGNOSIS

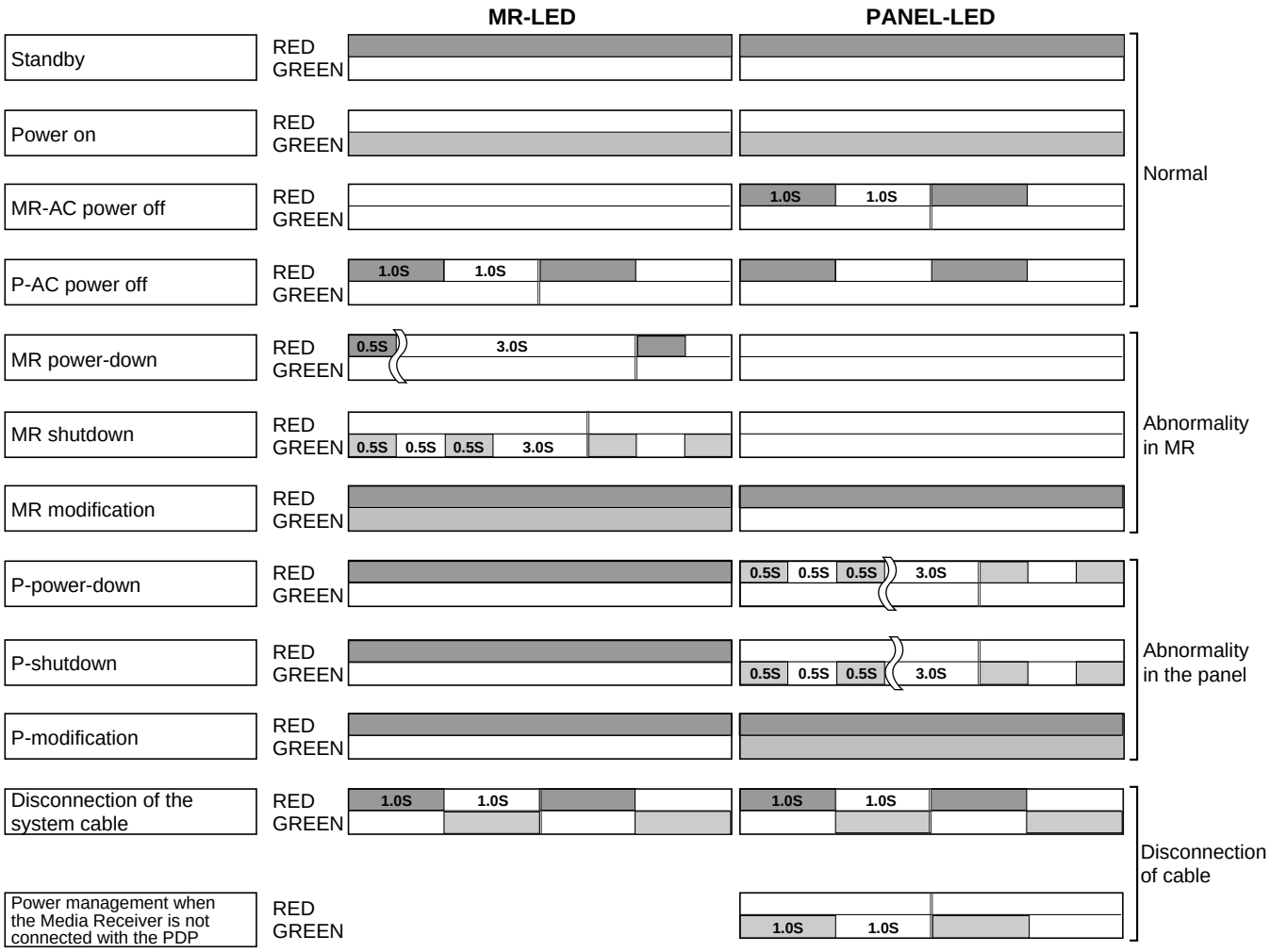
7.1.1 PCB LOCATION



● **Rear view**

7.1.2 DIAGNOSIS OF SHUTDOWN/POWER-DOWN INDICATED BY LEDS

• Operation statuses indicated by LEDs



Note: "P" stands for panel.

: Lit in red

: Lit in green

: Not lit

• Identification of locations having abnormality by the number of times the LEDs flash

■ On Shutdown and power-down

Shutdown

• Operation: When the microcomputer detects any abnormality, it forcibly turns off the unit.
• LED indication: The green LED flashes.

Power-down

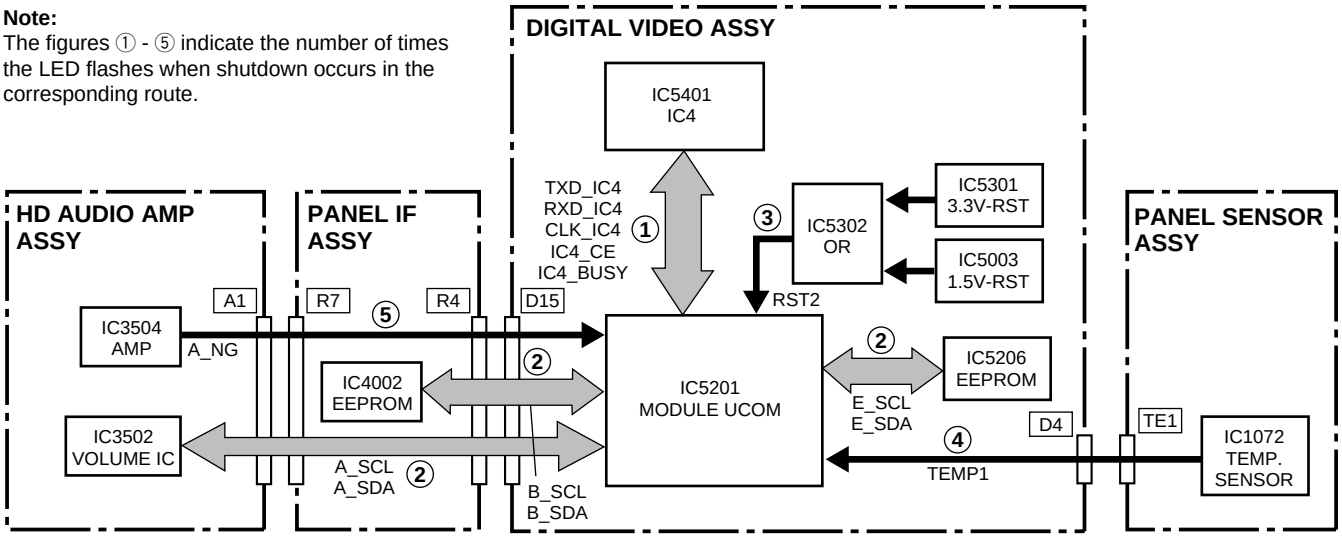
• Operation: When the unit is in emergency status, a protection circuit is activated, and the power is turned off.
• LED indication: The red LED flashes.

Category	MR-LED		PANEL-LED		Content	Unit's operation	Warning indication when the MR is connected
	STB	ON	STB	ON			
SD	Lit			1 time	Communication failure of the panel-drive IC	Immediate shutdown	
	Lit			2 times	Communication failure of the module IIC	Immediate shutdown	
	Lit			3 times	Power decrease of the digital DC-DC converter	Immediate shutdown	
	Lit			4 times	Panel having high temperature	Shutdown 30 seconds after warning	Powering off. Internal temperature too high Check temperature around PDP. Check temperature around media receiver. [SD04]
	Lit			5 times	Audio failure	Shutdown 3 seconds after warning	Powering off. Internal protection circuits activated, Is there a short in speaker cable ? [SD05]
		6 times	Lit		Communication failure of the module microcomputer	Immediate shutdown	
		7 times	Lit		Main 3-wire serial communication in failure	Immediate shutdown	
		8 times	Lit		Communication failure of the main IIC	Immediate shutdown	
		9 times	Lit		Communication failure of the main microcomputer	Immediate shutdown	
		10 times	Lit		Fan in failure	Immediate shutdown	
		11 times	Lit		MR or unit having higher temperature	Shutdown 30 seconds after warning	Powering off. Internal temperature too high Check temperature around PDP. Check temperature around media receiver. [SD11]
		12 times	Lit		Communication failure of the digital tuner	Immediate shutdown	
		13 times	Lit		MR-ASIC power (DC-DC) in failure	Immediate shutdown	
		14 times	Lit		Communication failure of IF-EEPROM	Immediate shutdown	
PD	1 time		Lit		MR power supply	Immediate power-down	
	Lit		2 times		Panel-POWER SUPPLY	Immediate power-down	
	Lit		3 times		SCAN	Immediate power-down	
	Lit		4 times		SCAN-5V	Immediate power-down	
	Lit		5 times		Y-DRIVE	Immediate power-down	
	Lit		6 times		Y-DCDC	Immediate power-down	
	Lit		7 times		Y-SUS	Immediate power-down	
	Lit		8 times		ADDRESS	Immediate power-down	
	Lit		9 times		X-DRIVE	Immediate power-down	
	Lit		10 times		X-DCDC	Immediate power-down	
	Lit		11 times		X-SUS	Immediate power-down	
	Lit		12 times		DIGITAL-DCDC	Immediate power-down	
	Lit		15 times		UNKNOWN ∗	Immediate power-down	

∗ If the unit cannot identify which protection circuit was activated, even if a power-down had been detected, the red LED may flash 15 times.

• Block diagram of the shutdown signal system

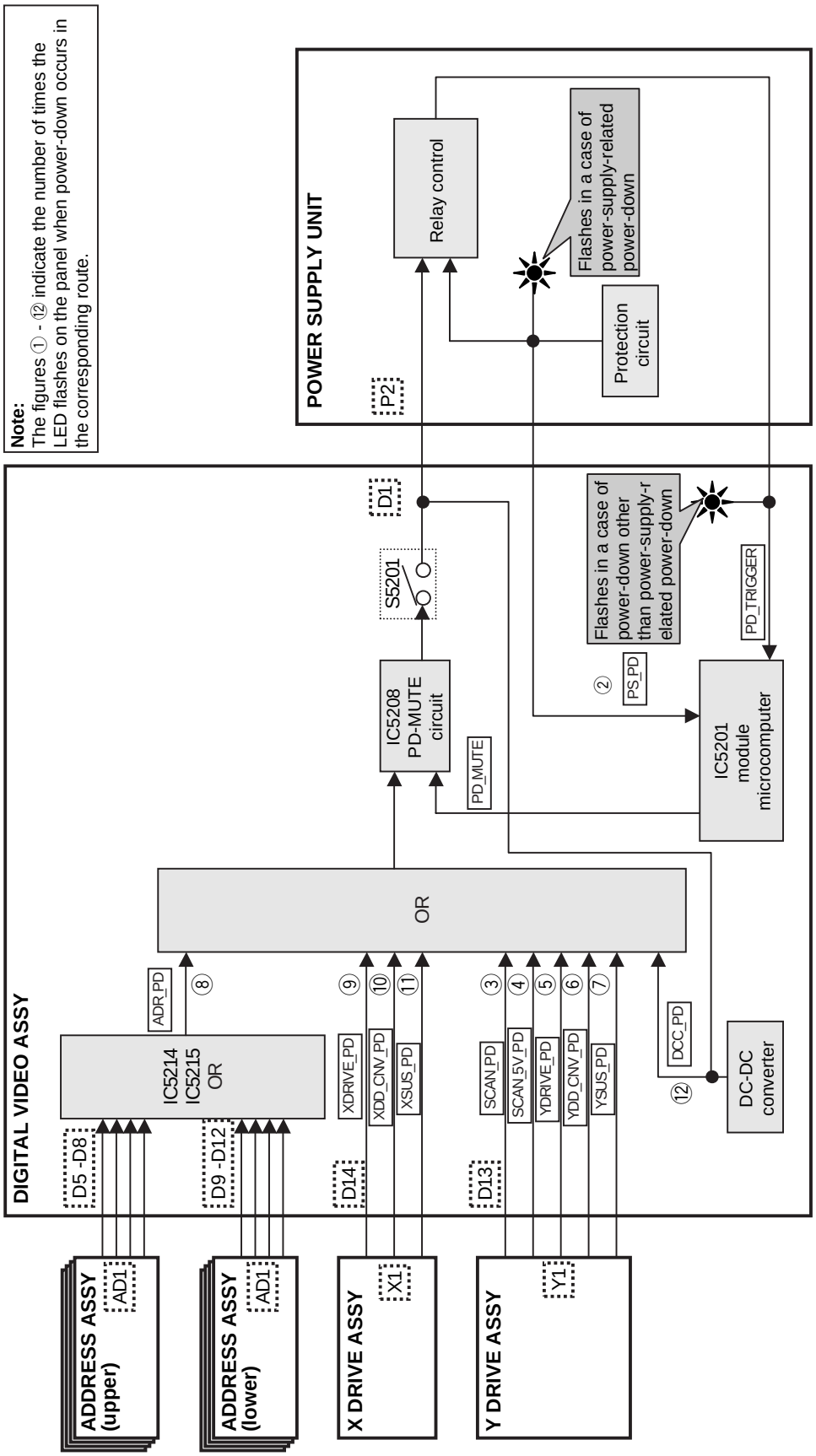
Note:
The figures ① - ⑤ indicate the number of times the LED flashes when shutdown occurs in the corresponding route.



• Diagnosis of shutdown

LED	SD Circuit in Operation	Defective Assy	Reason for Shutdown	Point to be Checked	Possible Defective Part	Remarks
1 time	Communication failure of the panel-drive IC	DIGITAL VIDEO	Communication failure of IC4	IC4 BLOCK, PANEL FLASH BLOCK	IC5401, IC5305	
			Writing failure of IC4			After turning the unit on again, check if the data on the version can be read with the GS1 command.
2 times	Communication failure of the module IIC (Check the shutdown subcategory on the Factory menu.)	DIGITAL VIDEO	Communication failure of the EEPROM (4K)	MODULE UCOM BLOCK	IC5206	
		PANEL IF	Communication failure of the EEPROM (2K)	PANEL IF BLOCK	IC4002	
			Disconnection of cable	CN4009 - CN3501		Check if the cable is disconnected or not securely connected.
		HD AUDIO	Defective volume IC	HD AUDIO AMP Assy	IC3502	
			Defective 114-pin FPC	CN4004 - CN5001	ADY1081	Check if the 114-pin FPC is broken or not securely connected.
3 times	Power decrease of DIGITAL-DC-DC	DIGITAL VIDEO	Defective DC-DC converter	DIGITAL DD CON BLOCK	U5601	Check if 3.3 V, 2.5 V, and 1.5 V are activated.
			Defective RST IC	PANEL FLASH BLOCK	IC5301, IC5302, IC5303	
		POWER SUPPLY	No startup of 12 V			
4 times	Panel having higher temperature	DIGITAL VIDEO	Cable disconnected	CN5202 - CN1071		
			Panel having higher temperature	Surrounding temperature		Shutdown occurs when the sensor temperature becomes 77°C or more (PDP-434P) or 83°C or more (PDP-504P).
5 times	Audio failure		Speaker short-circuited	Speaker terminals		Check if the speaker cables are in contact with the chassis, etc.
		HD AUDIO	Defective AMP IC	HD AUDIO AMP ASSY	IC3504	
		HD AUDIO	Disconnection of cable	CN4009 - CN3501		Check if the cable is disconnected or not securely connected.

• **Block diagram of the power-down signal system**



• Power-down diagnosis (defective points)

	PD Circuit in operation	Defective Assy	Reason for Power-down	Point to be Checked	Possible Defective Part	Remarks
1	MR POWER					
2	POWER	POWER SUPPLY Unit				If the elapsed time from relay-on until the LED in the power supply unit lights is about 2-4 seconds, the defective assembly may be the 50 X or Y DRIVE.
		50 X DRIVE Assy	VSUS UVP	X SUS BLOCK	IC1203 - IC1207 (mask module)	
		50 Y DRIVE Assy	VSUS UVP	Y SUS BLOCK	IC2303 - IC2307 (mask module)	
3	SCAN	50 SCAN A, B Assy or Y 43 DRIVE Assy	VH UVP	SCAN IC	SCAN IC	
			VH UVP	VH DC/DC	IC2401, IC2402, IC2410, L2401	
			Disconnection of cable detected	CN2001, CN2301		
4	SCN-5V	50 SCAN A, B Assy or 43 Y DRIVE Assy	Disconnection of cable detected	CN2101, CN2102		
			IC5V UVP	SCAN IC, IC5V DC/DC Y SUS BLOCK	SCAN IC, Q2401, Q2402, IC2304, IC2309	
			IC5V OVP	IC5V DC/DC	IC2403, IC2411	
5	Y-DRIVE	50 Y DRIVE Assy	+16.5V OCP	Y SUS BLOCK	IC2303 - IC2307 (mask module), IC2301, IC2304, R2309	
6	Y-DCDC	50 Y DRIVE Assy	VOFS UVP	VOFS DC/DC	IC2404, IC2412, Q2404, Q2407	
			VOFS OVP	VOFS DC/DC	IC2404, IC2412	
			VH OVP	VH DC/DC	IC2402, IC2410	
7	Y-SUS	50 Y DRIVE Assy	Power-down caused by detection of middle-point voltage	Y RESONANCE BLOCK	Q2202, Q2214, Q2205, Q2206, Q2208, Q2209, Q2211, Q2212, IC2201, IC2202, Control signal series resistors	
		DIGITAL VIDEO Assy	Power-down caused by detection of middle-point voltage	DIGITAL VIDEO Assy	IC5401, Control signal series resistors	
8	ADRS	50 ADDRESS Assy	Disconnection of cable detected	CN1501		
			Power-down caused by detection of a power surge	ADR RESONANCE BLOCK	R1631, Q1601, D1602	
			Power-down caused by detection of middle-point voltage	ADR RESONANCE BLOCK	Q1602, C1609, D1606, D1607	
9	X-DRIVE	50 X DRIVE Assy	Disconnection of cable detected	CN1001, CN1201		
			+16.5V OCP	X SUS BLOCK	IC1203, IC1207 (mask module), IC1204, IC1206, R1230	
			VRN OCP	X SUS BLOCK	Q1205, R1226, R1251	
10	X-DCDC	50 X DRIVE Assy	VRN OVP	VRN DC/DC	IC1403, IC1404	
			VRN UVP	VRN DC/DC	IC1402, IC1403, IC1404	
				X SUS BLOCK	Q1205, R1226, R1251	
11	X-SUS	50 X DRIVE Assy	Power-down caused by detection of middle-point voltage	X RESONANCE BLOCK	Q1102, Q1103, Q1105, Q1106, Q1108, Q1109, Q1111, Q1112, IC1101, IC1102, Control signal series resistors	
		DIGITAL VIDEO Assy	Power-down caused by detection of middle-point voltage	DIGITAL VIDEO Assy	IC5401, Control signal series resistors	
12	DIG-DCDC	DIGITAL VIDEO Assy	DCDC +3.3V, +1.5V OVP	DC DC CONVERTER BLOCK	U5601 (DC DC CONVERTER Module)	

OVP : **O**ver **V**oltage **P**rotection
UVP : **U**nder **V**oltage **P**rotection
OCP : **O**ver **C**urrent **P**rotection

7.1.3 DIAGNOSIS WITH THE AID OF FACTORY MODE

• Diagnosis with the aid of Factory mode

When the Media Receiver is connected, the power-down and shutdown logs can be referred to with OSD. Only the items useful when servicing the PDP-434PU/PDP-504PU are described here.

■ How to enter Factory mode using the remote control unit

Please refer to the technical documentation (Service knowhow).

■ Power-down log (INFORMATION-PANEL PD)

The last 8 power-down records are held, with the latest power-down displayed at the top. In the FIRST column, the location where the PD circuit was activated first (location indicated by flashing of the LED during power-down) is indicated, and in the SECOND column, the location where the PD circuit was activated second is indicated.

Note: There may not be a SECOND PD.

```
INFORMATION                IN1-013-NTV-ST1

PANEL PD
      FIRST          SECOND
 1  X-DRV          -----      00523H51M
 2  Y-SUS          Y-DCDC     00275H42M
 3  SCAN           -----      00090H50M
 4  Y-DCDC         -----      00043H03M
 5  SCN-5V         -----      00002H31M
 6  ADRS           -----      00000H07M
 7                             H    M
 8                             H    M
```

■ Shutdown log (INFORMATION-PANEL SD)

The last 8 shutdown records are held, with the latest shutdown displayed at the top. If a shutdown occurred because of "MD-IIC" (communication failure of the module microcomputer IIC), the subcategory is indicated to inform you of with which device the microcomputer was in the process of communicating when a failure occurred.

```
INFORMATION                IN1-013-NTV-ST1

PANEL PD
      MAIN       SUB
 1  AUDIO          -----      00103H51M
 2  MD-IIC         VOLIC      00075H42M
 3  TEMP1          -----      00050H50M
 4  TEMP1          -----      00050H45M
 5                                H    M
 6                                H    M
 7                                H    M
 8                                H    M
```

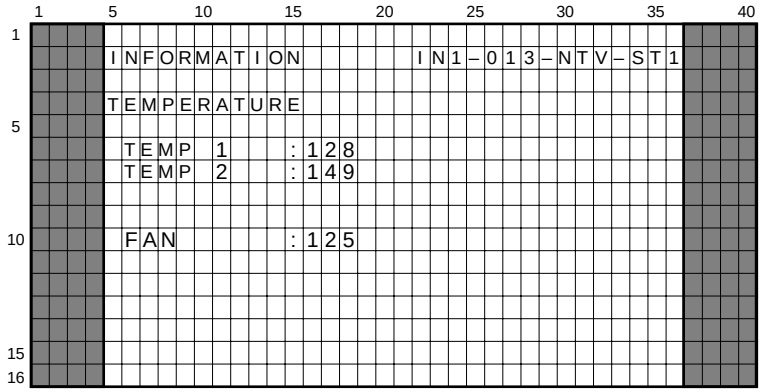
[Data on MD-IIC subcategories]

OSD	Defective communication part
EROM4K	IC5206: Module microcomputer
EROM2K	IC4002: EEPROM for backup
VOLIC	IC3502–Volume IC

■ Data on temperature (INFORMATION-TEMPERATURE)

The data on the current temperatures are displayed.
The temperature at the PANEL SENSOR ASSY of the PDP-434P/PDP-504P is indicated as the TEMP 1 value (000-255), which should be converted using the following formula:
Current temperature (°C) ≒ 0.65 × TEMP 1 value - 52

Note: Shutdown caused by high TEMP 1 value
PDP-434P: TEMP 1 value > 200 (≒ 77°C)
PDP-504P: TEMP 1 value > 209 (≒ 83°C)



Note: To update the data on temperature, use the Left and Right keys on the remote control unit.

[Diagnosis of abnormalities other than shutdown and power-down]

Symptom	Defective Assy	Possible Cause	Check Point	Possible Defective Part	Remarks
No power (both red and green LEDs unlit)		Cable disconnection	CN4001		Check if the connection between the POWER SUPPLY and PANEL IF assemblies is properly made.
No power (green LED not lit)		Defective 114-pin FPC	CN4004 - CN5001	ADY1081	Check if the FPC is broken or not securely inserted.
No power (both red and green LEDs lit)		Detection by the TRAP switch	CN4006		Check if the TRAP switch is properly set. (See "7.1.4 Canceling detection of the TRAP switch".)
		Defective TRAP switch		ASG1089	Check if the unit works properly when detection of the TRAP switch is canceled. (See "7.1.4 Canceling detection of the TRAP switch.")
The power is (sometimes) interrupted.		Defective system cables	CN4002, CN4003		Check if the system cables are securely connected. (See "7.1.5 Operation when the Media Receiver is not connected.")
The power is interrupted, and the red and green warning indications appear on the screen.		System cables not connected			Check connection of the system cables. (See "7.1.5 Operation when the Media Receiver is not connected.")
Key input not effective		Cable disconnection	CN4801 - CN4851	ADD1225	Check if the FPCs are properly connected. Check if imparting vibration to the unit affects key inputs. Check if a pulse is output when the key corresponding to Pin 2 of the CN4852 is pressed.
		Cable disconnection	CN4852 - CN4010		Check if the cables are disconnected or not securely connected. Check if a pulse is output when the key corresponding to Pin 5 of the CN4010 is pressed.
	KEY CONTROL	Defective KEY SCAN IC	KEY CONTROL Assy	IC4851	Check if a pulse is output when the key corresponding to Pin 2 of the CN4852 is pressed.
Remote control unit not effective		Cable disconnection	CN4901 - CN4010		Check if the cables are not connected or securely connected.
					Check if the FPCs are properly connected.
	PANEL IR	Defective infrared receiver	PANEL IR	U4901	Check if a pulse is output when the key corresponding to Pin 3 of the CN4010 is pressed.
Abnormality in a one-eighth area of the screen	DIGITAL VIDEO	Defective IC4	IC4 BLOCK	IC5401	Check if an abnormal area in the screen changes when the FPC connected to the address corresponding to the abnormal area is replaced with the one corresponding to the next address.
	ADDRESS				Check that an abnormal area in the screen does not change when the FPC connected to the address corresponding to the abnormal area is replaced with the one corresponding to the next address.
Abnormal screen (Data of every other dot are abnormal)		Defective 114-pin FPC	CN4004 - CN5001	ADY1081	Check if the FPC is broken or not securely inserted.

7.1.5 CANCELING DETECTION BY THE TRAP SWITCH

• Canceling detection by the TRAP switch

Outline: For video data transmission from the Media Receiver to the plasma display, digital signals are used. Therefore, this unit adopts the HDCP (High-bandwidth Digital Content Protection) system for copyright protection. This unit is also provided with a detection switch (TRAP switch) that will prohibit the unit from being turned on again if the rear case of the unit is opened, in order to prevent the panel technology from being leaked out.

Function: To deactivate the detection of the TRAP switch

Purposes: 1. During production of this unit, adjusting with the rear cover opened is possible.
2. During servicing or repairing, diagnoses of the assemblies are possible while the power is on.

Methods: For setting, use RS232C commands:
TSN: Ignore the monitoring of the switch
CTM: Clear the detection log of the switch
TSY: Reactivate monitoring of the switch

Notes:

- The TRAP switch is located on the chassis (see Fig. below).
- Once rear case opening is detected, send the TSN and CTM commands.
- Because the TSN command is not stored in memory, monitoring of the switch can be reactivated by turning the unit off then back on.
- The same setting is possible using the Factory menu.
- Because the output of the DVI receiver is controlled by the physical setting of the TRAP switch, if the TRAP switch is set to OPEN, the DVI signal cannot be output even if the TSN command is sent.
- When the Media Receiver is connected, detection by the TRAP switch can be canceled by entering Factory mode.

● How to enter Factory mode using the remote control unit

Please refer to the technical documentation (Service knowhow).

● How to clear the detection log of the TRAP switch

In the INITIALIZE layer, hold the OSD key on the remote control unit pressed for at least 3 seconds.

● After a power-down, to cancel detection of the TRAP switch using only the remote control unit, follow the procedures below.

First, fix the TRAP switch to its depressed position. Set the drive ON/OFF switch in the DIGITAL VIDEO Assy to OFF,
Then enter the Factory mode. Press the MUTE key four times, then hold the OSD key pressed for at least 3 seconds. Set the AC switch on the panel to OFF. The log is also cleared. Then set the drive ON/OFF switch to ON.

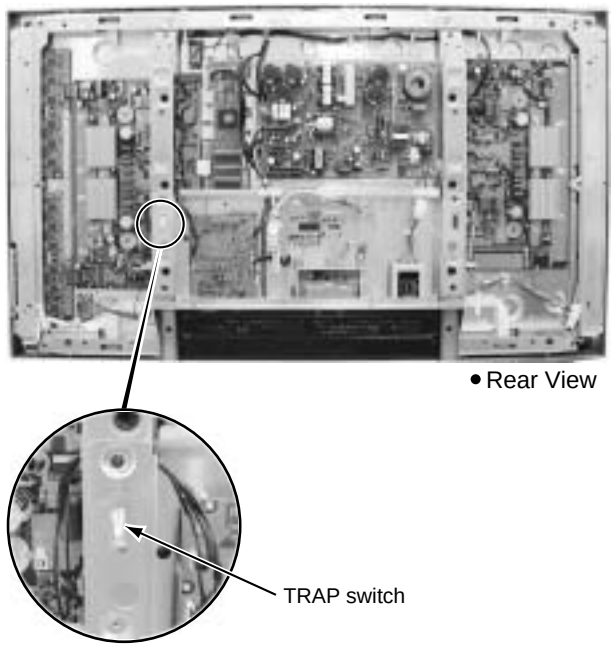
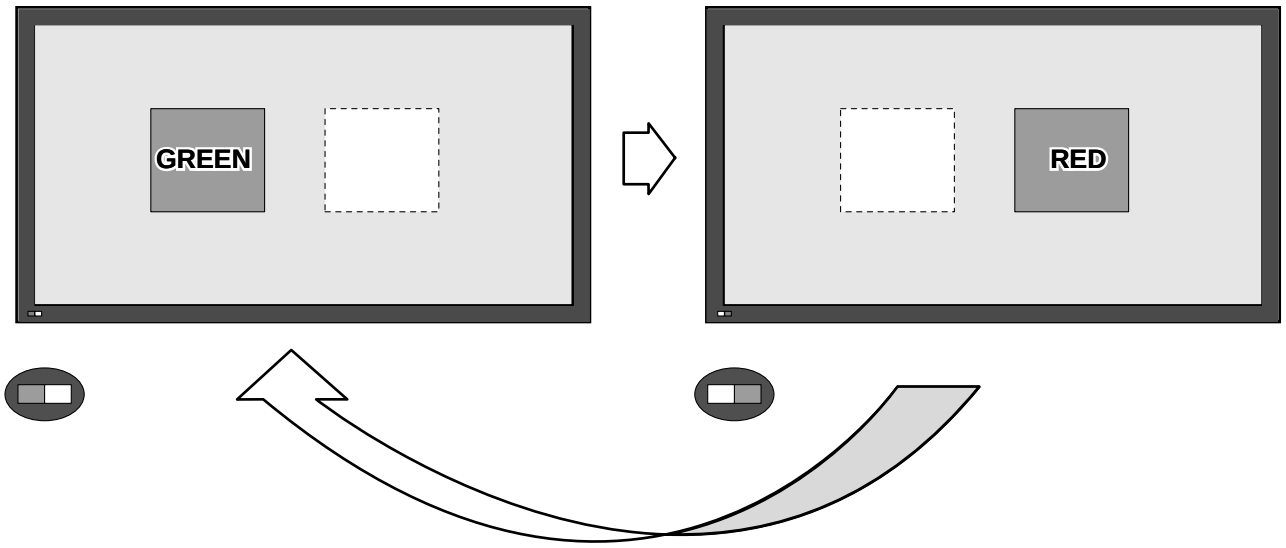


Fig. TRAP switch

7.1.6 OPERATION WHEN THE MEDIA RECIVER IS NOT CONNECTED

As the connection conditions of the system cables (MDR cable, DVI cable) are usually detected, if no connection, such as cable disconnection, is detected, a warning indication (alternate flashing of the red and green areas) is displayed on the mask screen, and the red and green LEDs flash alternately. Then after about 30 seconds, the power is automatically turned off.

Note: Only when the power is turned on again, a warning indication on the mask screen restarts. During standby, only the red and green LEDs flash alternately.



Alternate flashing at intervals of about 1 second

To operate the panel without the Media Receiver, there are the following two ways:

1. Operation-without-the-Media-Receiver mode

Input the "SCN" RS232C command. The status of the LEDs changes to that in normal operation mode.

Note: Turning the AC switch to OFF then ON also maintains this mode. However, once the unit is connected with the Media Receiver using the MDR cable, this mode is automatically canceled.

2. DVI mode

Turn the unit on while PC and DVI SG signals are being input with only the DVI connecter connected. After a warning is displayed for about 5 seconds, the unit is ready to display the screen of the input signal. (Green LED lit)

Notes:
- Although the output from XGA (43 inch) and WXGA (50 inch) can be input to the unit, this is not a mode open to general users. (With some signals, errors such as power-down may occur.)
- If a DE signal from the SG is not input during DVI mode, the green LED flashes (at intervals of 2 sec) for about 8 seconds, then the unit shifts to Power Management mode (the green LED lights).

7.1.7 TEMPERATURE-COMPENSATION FUNCTION OF THE DRIVE-SYSTEM VOLTAGE

Function: To control the DRIVE-system voltage according to the temperature (Temperature compensation functions such that the voltage is lowered on the lower-temperature side and the voltage becomes higher on the higher-temperature side.)

Purpose: For improving the yield by compensating for the temperature characteristics of the panel

Note: Temperature compensation is performed only for the VSUS voltage, and not for the VOFS voltage. This compensation is controlled by the software.

7.1.8 POWER ON/OFF FUNCTION FOR THE LARGE-SIGNAL SYSTEM

Function: Only the power for the small-signal system (16.5 V, 12 V, and 6.5 V) is on, and the power for the large-signal system (VSUS, VADR) is off.

Usage: 1. Use when only an operational check for the small-signal system is required, such as when making repairs.
2. Use when rewriting of a program for each microcomputer is required.

Methods: 1 Set the slide switch (S5201) on the DIGITAL VIDEO Assy to its upper position (see Fig. below).
2. Send the "DRF" RS232C command to turn the large-signal system off.
3. Send the "DRN" RS232C command to turn the large-signal system on.

Notes:
- As the unit enters Power-Down and Muting On mode when Methods 1 and 2 are performed, and power-downs other than those caused by the power (PS_PD) and DC-DC-converter (DIGITAL_DC-DC) circuits are not activated.
- If the slide switch is set from OFF to ON while the power is on, a power-down will occur. Be sure to turn the power off before switching the slide switch.

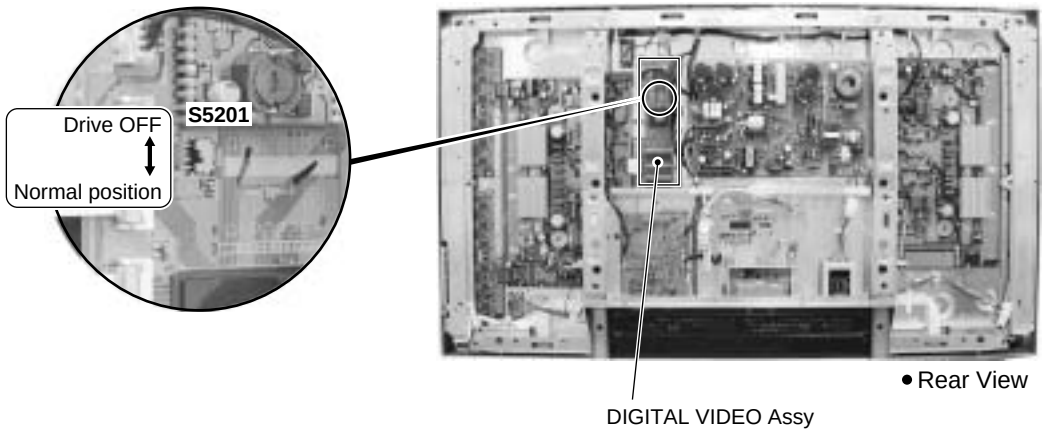


Fig. Drive OFF switch

7.1.9 BACKING UP THE ADJUSTMENT VALUES FOR THE MAIN UNIT

Outline

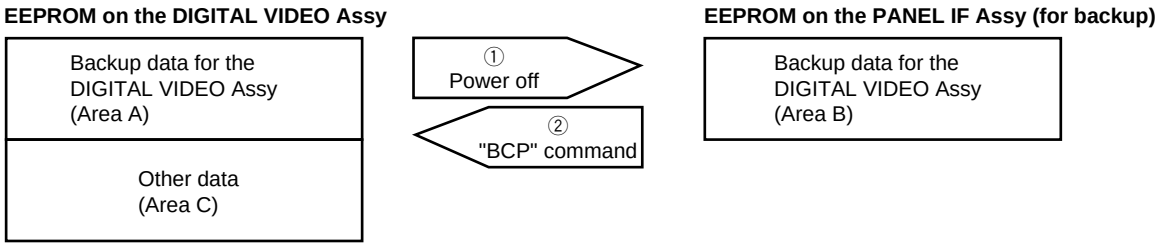
The data on the adjustment values for the main unit are stored in an EEPROM (IC5206, 4 kbits) on the DIGITAL VIDEO Assy. Part of the data (area A in the figure below) are automatically copied to an EEPROM (IC4002, 2 kbits) mounted on the PANEL IF Assy for backup. When the DIGITAL VIDEO Assy is replaced, the backup data on the adjustment values for the main unit stored in the PANEL IF Assy can be copied to the new DIGITAL VIDEO Assy, thus enabling you to omit newly performing adjustments on the main unit. The logs for the product (power-down log, etc.) can also be copied.

Data to be backed up in the digital EEPROM (area A)

- Margin adjustment values (Vsus, Vofset)
- Power upper-limit adjustment value (ABL)
- PANEL white-balance adjustment values
  (PANEL-R HIGH, PANEL-G HIGH, PANEL-B HIGH, PANEL-R LOW, PANEL-G LOW, PANEL-B LOW)
- Drive waveform adjustment values
  (X-SUS-U1, X-SUS-U2, X-SUS-D1, X-SUS-D2, Y-SUS-U1, Y-SUS-U2, Y-SUS-D1, Y-SUS-D2, Y-SUS-D3, Y-SUS-D4)
- Hour meter
- Pulse meter
- Number of times the power has been turned on
- PD/SD logs

Basic flow of automatic backup

Using a keyword, the data in areas A and B are judged as to whether they have been adjusted or not, then copying is performed.

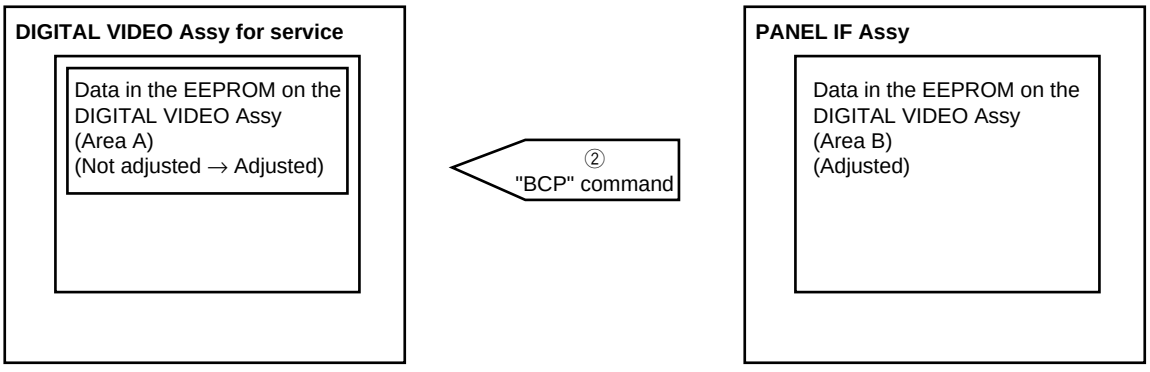

EEPROM on the DIGITAL VIDEO Assy
Backup data for the DIGITAL VIDEO Assy (Area A)
Other data (Area C)
①
Power off
②
"BCP" command
EEPROM on the PANEL IF Assy (for backup)
Backup data for the DIGITAL VIDEO Assy (Area B)

① The keyword on the DIGITAL VIDEO Assy is checked when the power is turned off, and if it is "adjusted", automatic backup is performed.
② If the keyword on the PANEL IF Assy (Area B) is "adjusted," copying can be performed with the "BCP" RS232C command.

Actual automatic backup operations

1. When the DIGITAL VIDEO Assy is replaced with an Assy for service

Changing of keywords is not required. Replace the DIGITAL VIDEO Assy with an Assy for service, and send the "BCP" RS232C command. Thus, the backup data in the EEPROM on the PANEL IF Assy are copied to the EEPROM on the DIGITAL VIDEO Assy for service.


DIGITAL VIDEO Assy for service
Data in the EEPROM on the DIGITAL VIDEO Assy (Area A) (Not adjusted → Adjusted)
②
"BCP" command
PANEL IF Assy
Data in the EEPROM on the DIGITAL VIDEO Assy (Area B) (Adjusted)

2. When a repaired DIGITAL VIDEO Assy is mounted on another unit (reuse of the repaired DIGITAL VIDEO Assy)

The keyword of the DIGITAL VIDEO Assy to be reused must be changed to "not adjusted" using the "UAJ" RS232C command.

Note 1: If a repaired DIGITAL VIDEO Assy is mounted in another unit (Unit 2) without this change of keyword, and the power to the unit 2 is turned off, the data in force before the repair of the DIGITAL VIDEO Assy will be copied to Area B of the PANEL IF Assy of Unit 2, overwriting the data necessary for Unit 2. Once overwritten, the original data will not be restored.

3. When a repaired DIGITAL VIDEO Assy is mounted on the original unit (reuse of the repaired DIGITAL VIDEO Assy)
Changing of keywords is not required. After the repaired DIGITAL VIDEO Assy is mounted in the original unit, the unit can operate with its latest adjustment values.

4. When both the DIGITAL VIDEO Assy and PANEL IF Assy are simultaneously replaced with other assemblies
The automatic backup function of this unit will not work properly.

Note 2: Readjustment of the main unit is required.
Note 3: After readjustment of the main unit, send the "FAJ" RS232C command to change the keyword of the DIGITAL VIDEO Assy to "adjusted." Thus, when the unit is turned off, automatic backup of adjustment data is performed properly.
Note 4: If readjustment of the main unit is totally impossible, it can be omitted by installing the EEPROM (IC5206, 4 kbits) originally mounted on the DIGITAL VIDEO Assy for service.

■ Miscellaneous

If the white balance (W/B) value is largely shifted because of aging, etc., W/B adjustment is required. (As this may be a rare case, the adjustment procedures are described below, just for your reference.

[W/B-adjustment procedures]

The W/B adjustment can be performed with the RS232C commands with the Media Receiver not connected to this unit. The GGF1475 special communication tool and a Minolta CA-100 color difference meter are required.

① Enter Operation-without-the-Media-Receiver mode with the "SCN" RS232C command.

② Set the keyword for the DIGITAL VIDEO Assy to "not adjusted" with the "UAJ" RS232C command.

③ Obtain the current adjustment values in the two adjustment tables (see "6.2.1 RS232C commands").
- Shifting to Table 1: Send the "M51" and "F60" commands. Obtaining the adjustment values: Send the "GPW" command.
- Shifting to Table 2: Send the "M51" and "F75" commands. Obtaining the adjustment values: Send the "GPW" command.

④ Make settings for various functions.
Send the "PPN," "SDN," "SPN," and "WAY" commands.
Note: After adjustment, when the POWER switch is set to OFF, these settings will be reset to the initial values.

⑤ For each table, set the brightness.
- Adjustment in Table 1: After sending the "F60" command, perform adjustment.
- Adjustment in Table 2: After sending the "F75" command, perform adjustment.

For each table, change the RGB parameters so that the values measured using a Minolta color difference meter (CA-100) become as indicated below. In this case, any one of PRH, PGH, or PBH must be set to 256.

	Left side of Mask H	Right side of Mask H
x	–	284
y	–	292

"PRH***" : 000 - 511
"PGH***" : 000 - 511
"PBH***" : 000 - 511

⑥ Check after adjustment
- Shifting to Table 1: Send the "F60" command. Obtaining the adjustment values: Send the "GPW" command.
- Shifting to Table 2: Send the "F75" command. Obtaining the adjustment values: Send the "GPW" command.

Check that the adjustment data have been changed.

⑦ Change the keyword for the DIGITAL VIDEO Assy to "adjusted" by sending the "FAJ" RS232C command.
Note: Use a Minolta CA-100 color difference meter or the equivalent for measurement. Otherwise, the specifications of the product cannot be assured.

7.1.10 DISASSEMBLY

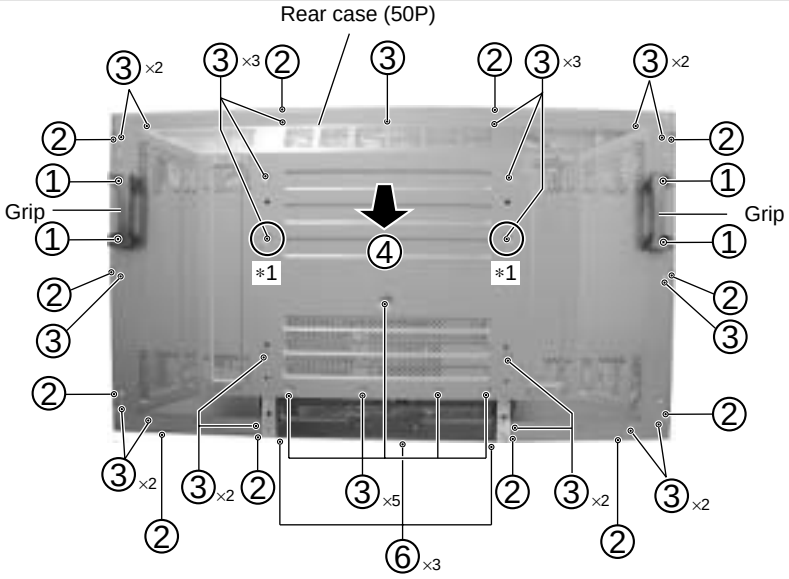
1 Rear case (50P), Front case Assy (50P)

① Remove the grip by removing the 4 screws.

② Remove the 12 screws (B tight).

③ Remove the 16 screws (M screws).
Note: At the time of a re-assembly, please attach after fixing a positioning hole previously.

④ Remove the rear case (50P).

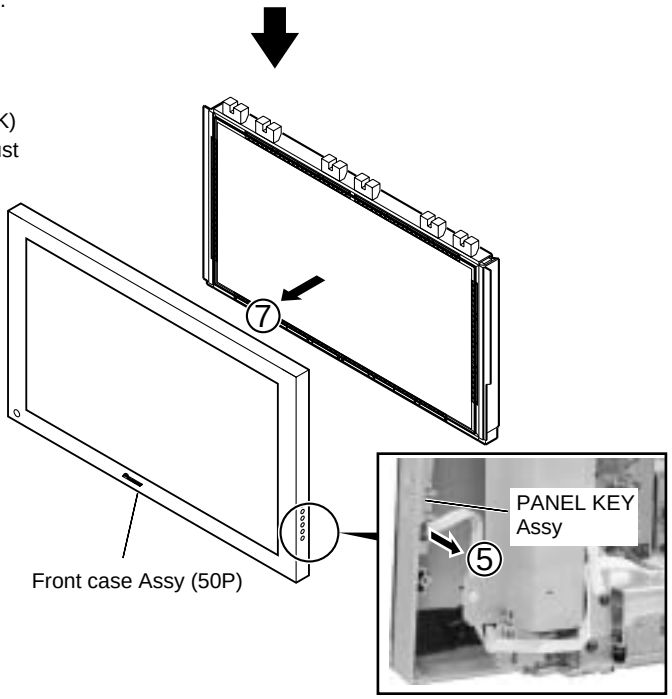


⑤ Remove the 3 screws (B tight).

⑥ Remove the flexible cable (J211) from the PANEL KEY Assy.

⑦ Remove the front case (50P).

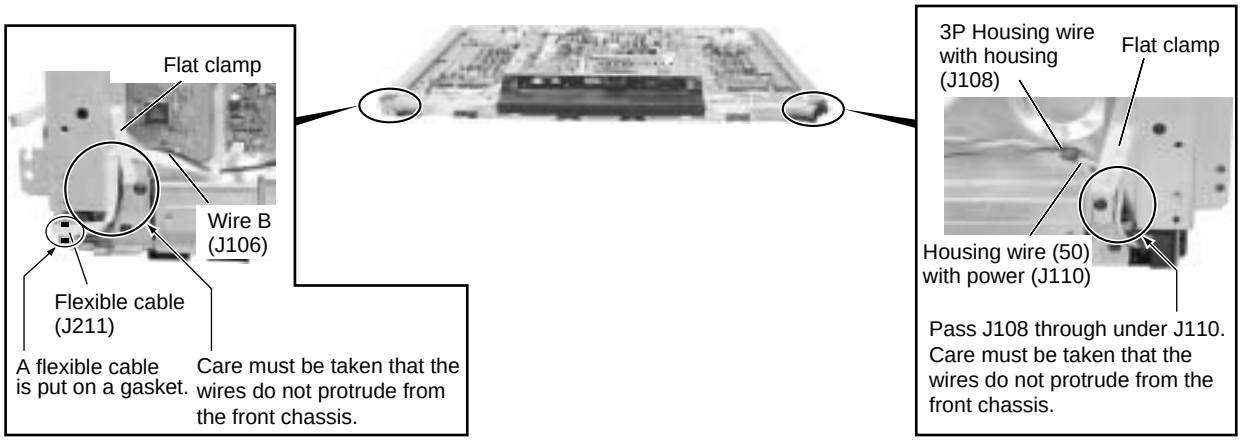
Note:
As the screws used for the front case are B tight (ABZ30P100FZK) and other screws used are M screws (AMZ30P060FZK), care must be taken not to use the screws in the wrong places.



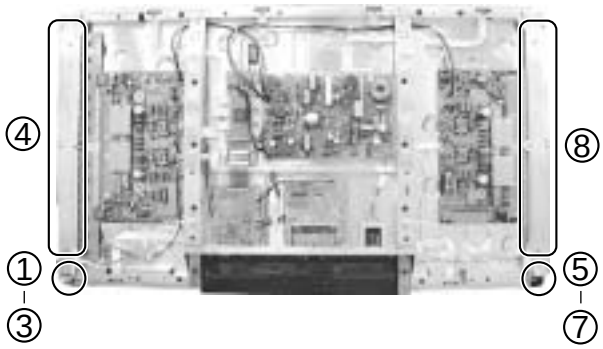
• When only the front case Assy (50P) is removed

② → ⑤ → ⑥ → ⑦

• Notes when reassembling the rear case (50P)


Flat clamp
Wire B (J106)
Flexible cable (J211)
A flexible cable is put on a gasket.
Care must be taken that the wires do not protrude from the front chassis.
3P Housing wire with housing (J108)
Flat clamp
Housing wire (50) with power (J110)
Pass J108 through under J110. Care must be taken that the wires do not protrude from the front chassis.

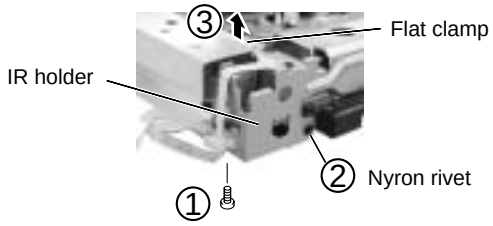
2 Front chassis VL Assy (50), Front chassis VR Assy (50)



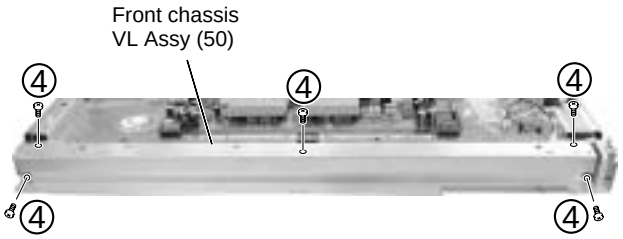
① Remove the front case, then remove the screw that secures the IR holder.

② Remove the nylon rivet, then remove the IR holder.

③ Remove the flat clamp, then remove the wires.



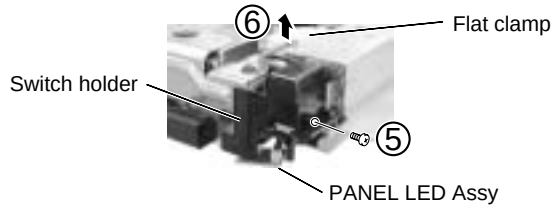
④ Remove the front chassis VL Assy (50), by removing the 5 screws (M screws).



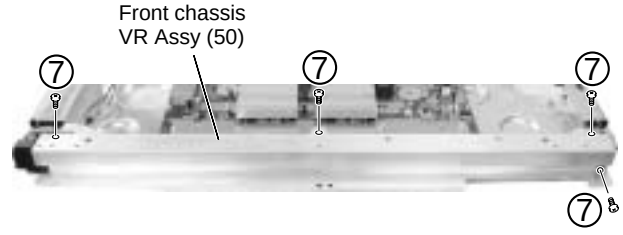
PANEL LED Assy

⑤ Remove the PANEL LED Assy, by removing the screw (M screw). If the screw is not removed, the connectors on the PANEL LED Assy may be damaged.

⑥ Remove the thin clamp, then remove the wires.

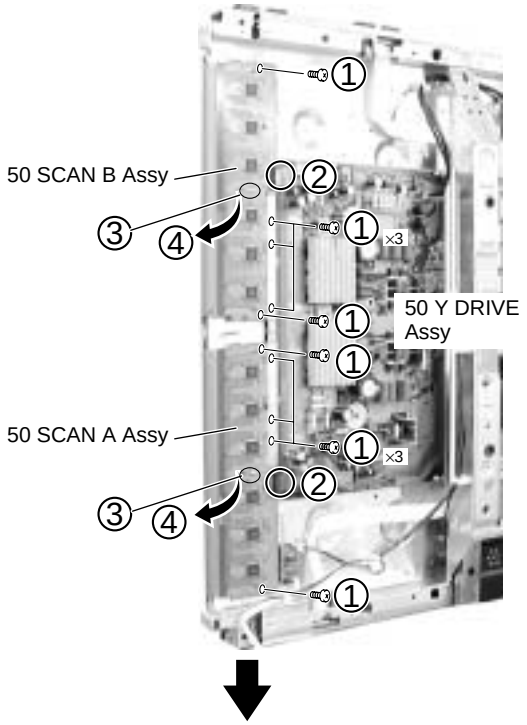


⑦ Remove the front chassis VR Assy (50), by removing the 4 screws (M screws).

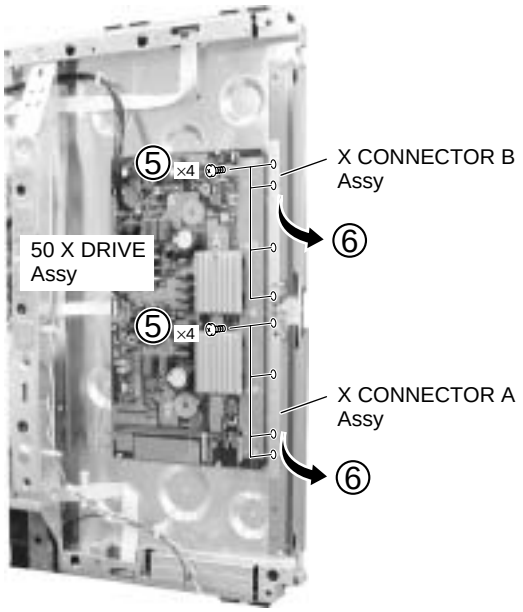


3 50 SCAN A, B, X CONNECTOR A and B Assemblies

① Remove the 10 screws (M screws).
② Remove the 2 pin connectors.
③ Remove the Spacer.
④ Remove the 50 SCAN A and B Assemblies.

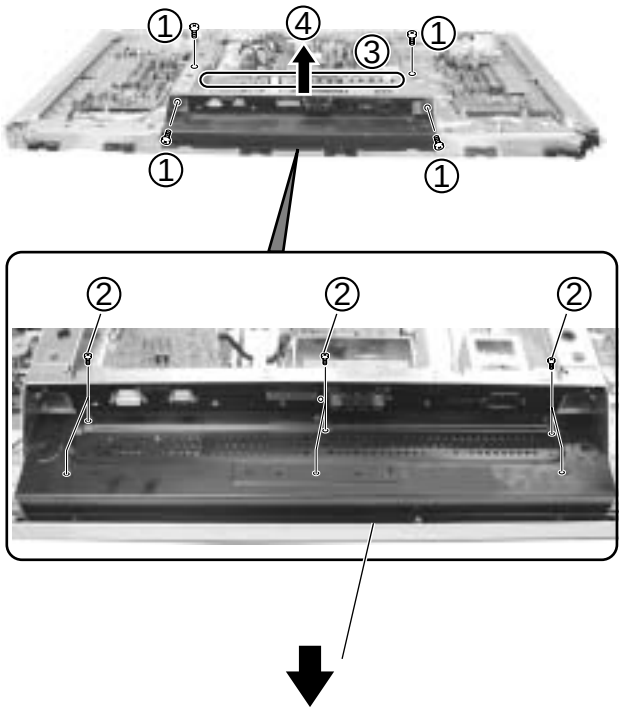


⑤ Remove the 8 screws (M screws).
⑥ Remove the X CONNECTOR A and B Assemblies.

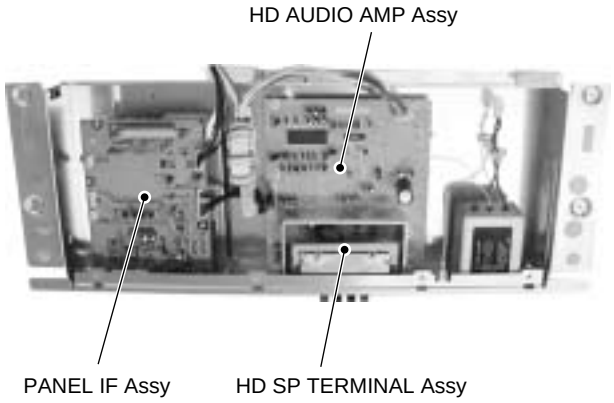


4 Multi base section

① Remove the 4 screws (M screws).
② Remove the 6 screws (M screws).
③ Remove the some connectors.
④ Remove the multi base section.



• PCB Location for multi base section



7.2 IC INFORMATION

' The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

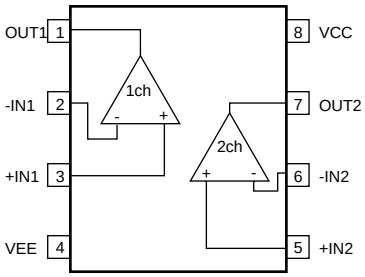
List of IC

BA10393F, BA10358F, BA8274F, NJM2195L, MBM29PL160BD, SII169CTG100, STK795-512, STK795-511, LA4625, M30626FHPGP, PD5856A, AN16003A-K, BD3869AS

■ BA10393F (50 X DRIVE ASSY: IC1103) (50 Y DRIVE ASSY: IC2211)

• Comparator IC

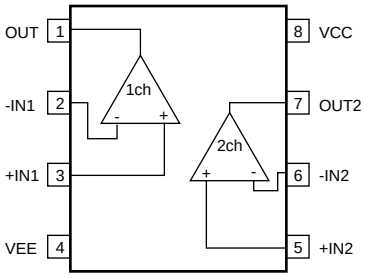
Pin Arrangement (Top view) / Block Diagram



■ BA10358F (50 Y DRIVE ASSY: IC2406)

• OP-AMP IC

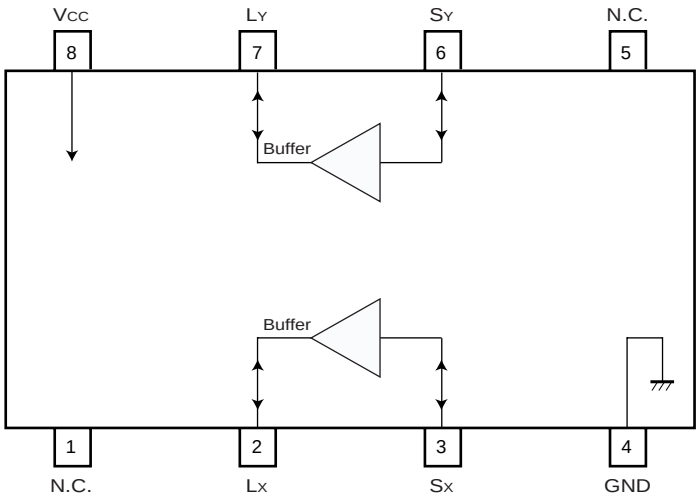
Pin Arrangement (Top view) / Block Diagram



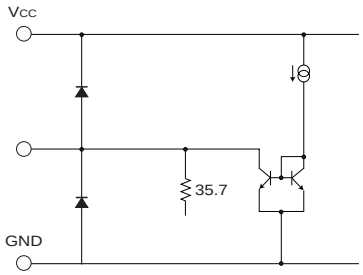
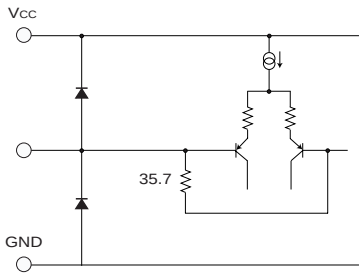
BA8274F (PANEL IF ASSY: IC4206)

• I^2C Bus Interface IC

● Block Diagram



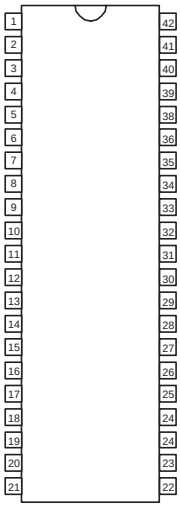
● Pin Function

Pin No.	Pin Name	Equivalent Circuit	Pin Function
2 7	Lx Ly		Buffer output
3 6	Sx Sy		Buffer input
4	GND	—	Ground
8	Vcc	—	Power supply

■ NJM2195L (HD AUDIO AMP ASSY: IC3501)

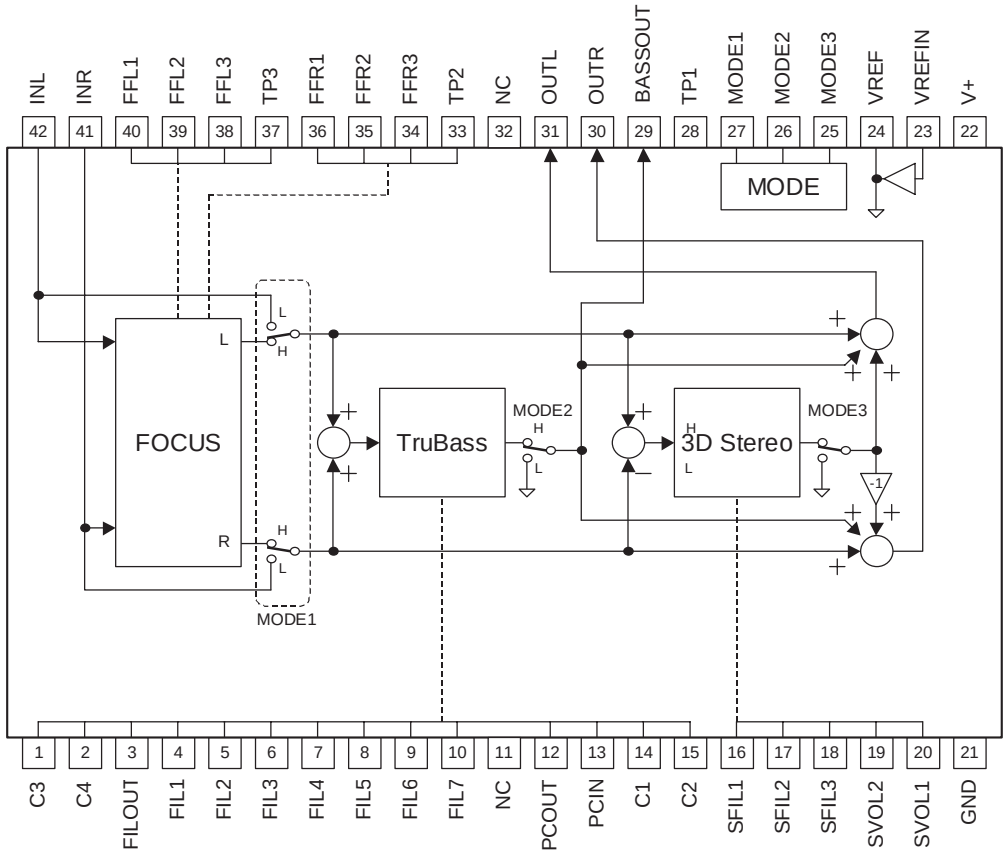
• Focus and SRS IC

● Pin Arrangement (Top view)

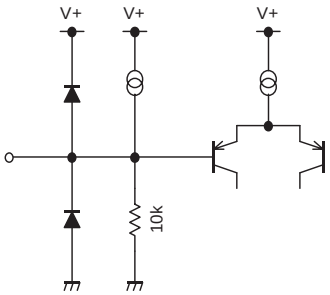
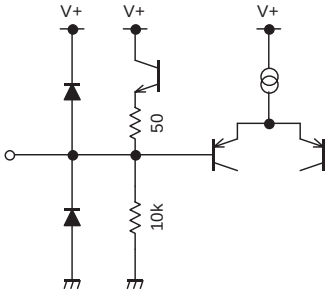
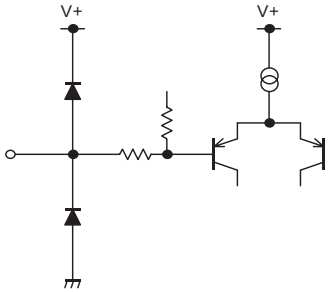
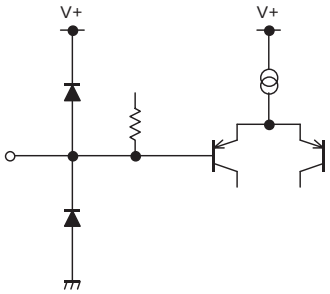


1.	C3	15.	C2	29.	BASSOUT
2.	C4	16.	SFIL1	30.	OUTR
3.	FILOUT	17.	SFIL2	31.	OUTL
4.	FIL1	18.	SFIL3	32.	NC
5.	FIL2	19.	SVOL2	33.	TP2
6.	FIL3	20.	SVOL1	34.	FFR3
7.	FIL4	21.	GND	35.	FFR2
8.	FIL5	22.	V+	36.	FFR1
9.	FIL6	23.	VREFIN	37.	TP3
10.	FIL7	24.	VREF	38.	FFL3
11.	NC	25.	MODE3	39.	FFL2
12.	PCOUT	26.	MODE2	40.	FFL1
13.	PCIN	27.	MODE1	41.	INR
14.	C1	28.	TP1	42.	INL

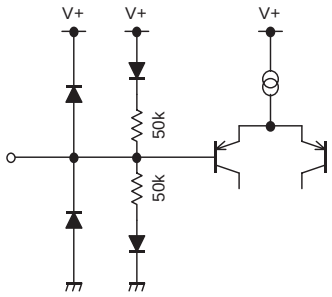
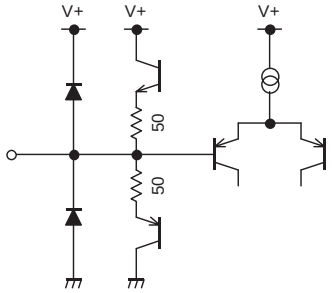
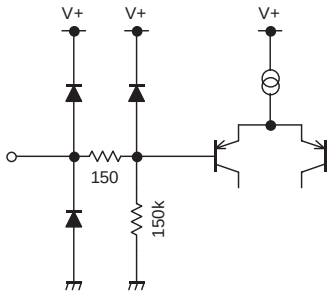
● Block Diagram



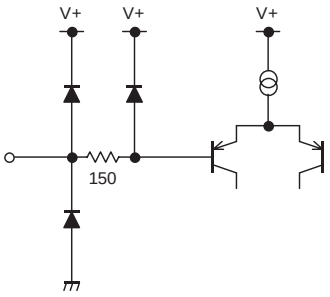
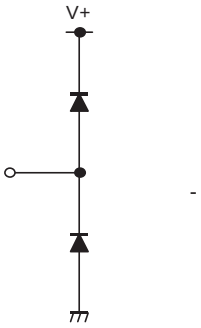
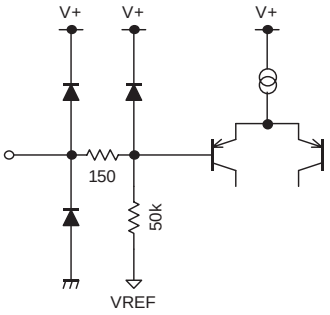
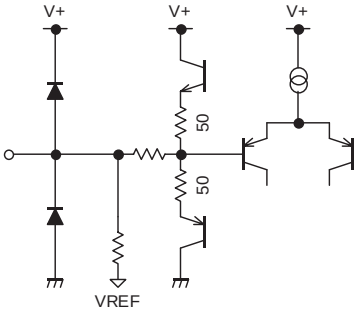
● Pin Function

No.			Pin Name		Equivalent Circuit	
SDIP42	SOP40	QFP48				
14	13	9	C1			0V
15	14	10	C2			0V
16 17 18	15 16 17	11 14 15	SFIL1 SFIL2 SFIL3			V+/2
19 2 5	18 2 5	16 44 47	SVOL2 C4 FIL2	WIDTH VR		V+/2

● Pin Function

No.			Pin Name		Equivalent Circuit	
SDIP42	SOP40	QFP48				
21	20	18	GND	GND	———	0V
22	21	19	V+		———	V+
23	22	20	VREFIN			V+/2
24 29 30 31 36 40 3	23 28 29 30 34 38 3	21 28 29 30 34 40 45	VREF BASSOUT OUTR OUTL FFR1 FFL1 FILOUT	TruBass Rch Lch		V+/2
25 26 27	24 25 26	22 23 26	MODE3 MODE2 MODE1	3 2 1		0V

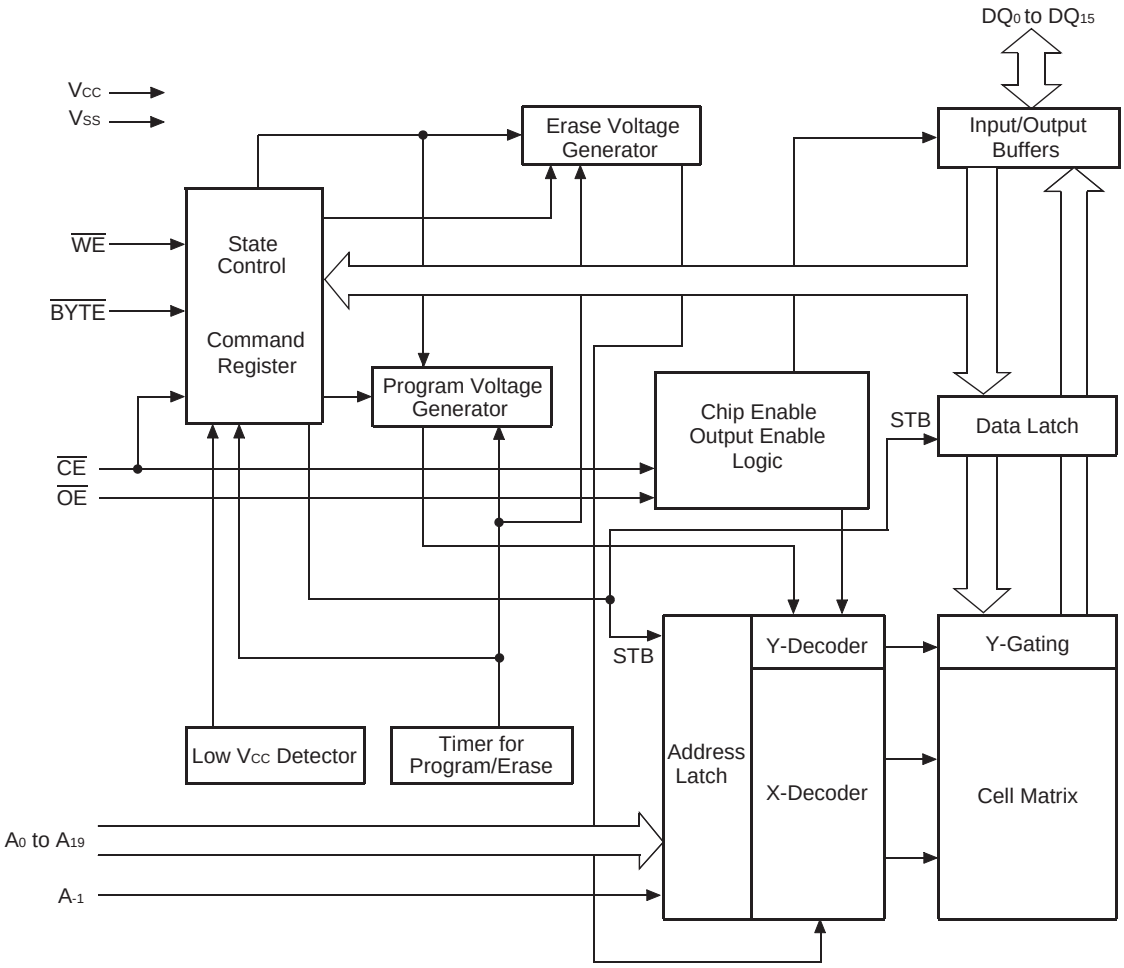
● Pin Function

No.			Pin Name		Equivalent Circuit	
SDIP42	SOP40	QFP48				
28 35 39	27 33 37	27 33 39	TP1 FFR2 FFL2			V+/2
33 37	31 35	31 35	TP2 TP3			-
41 42	39 40	41 42	INR INL	Rch Lch		V+/2
4	4	46	FIL1			V+/2

■ MBM29PL160BD (DIGITAL VIDEO ASSY: IC5303)

• Flash Memory IC

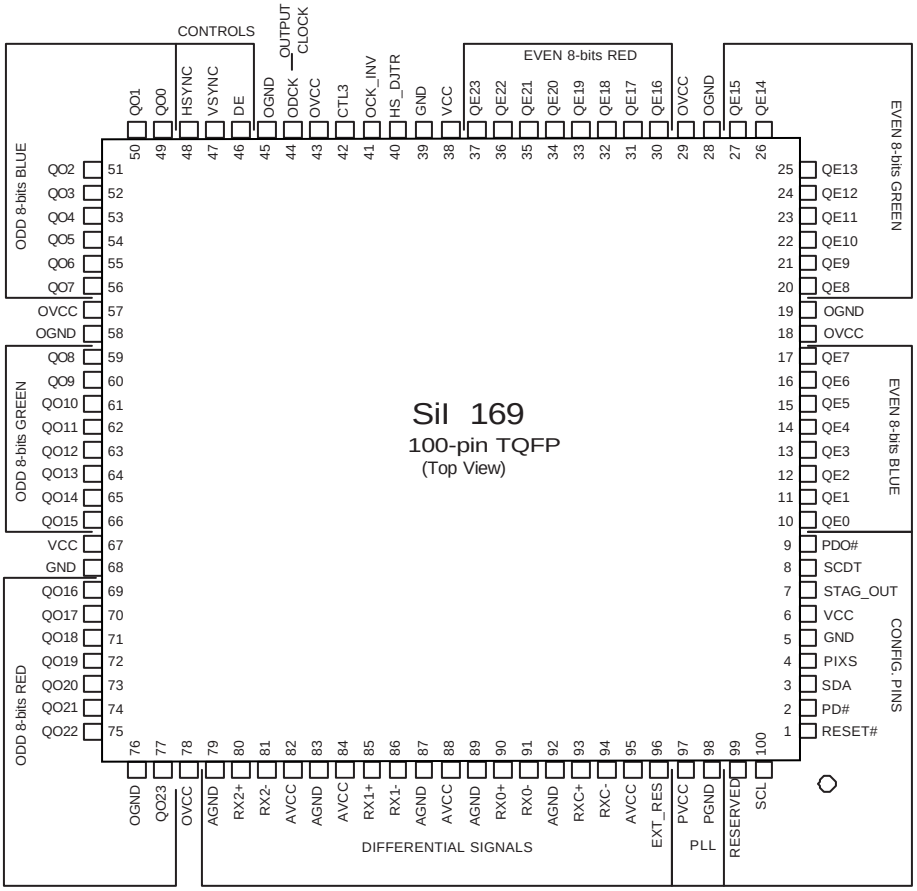
● Block Diagram



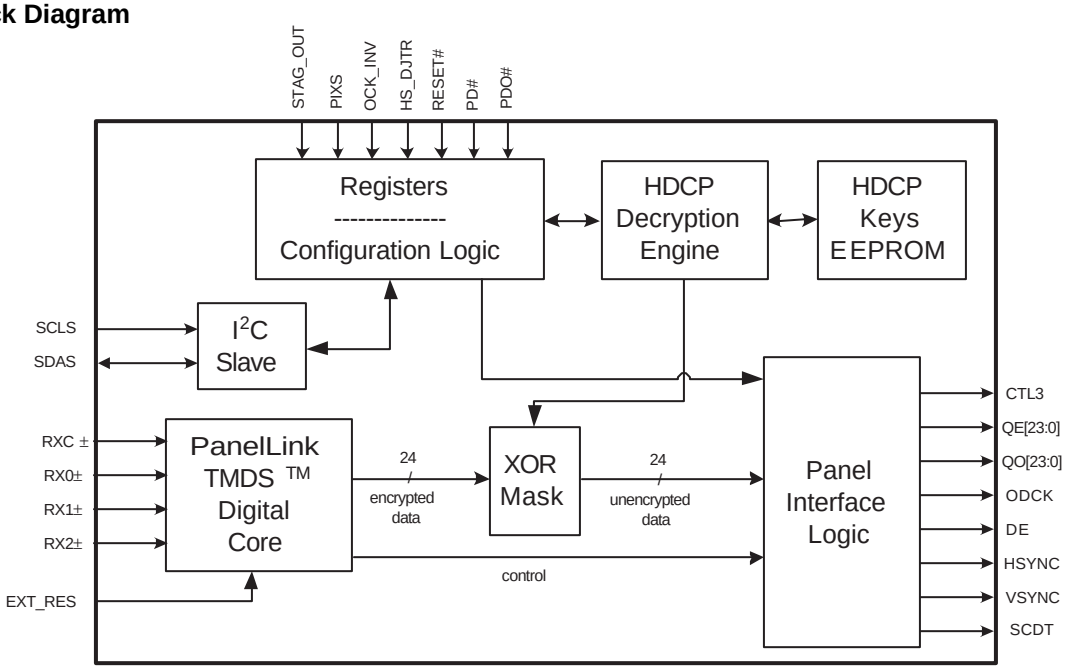
■ SII169CTG100 (PANEL IF ASSY: IC4202)

• Receiver IC

● Pin Arrangement (Top view)


CONTROLS
OUTPUT CLOCK
EVEN 8-bits RED
EVEN 8-bits GREEN
EVEN 8-bits BLUE
ODD 8-bits BLUE
ODD 8-bits GREEN
ODD 8-bits RED
CONFIG. PINS
DIFFERENTIAL SIGNALS
PLL
Sil 169
100-pin TQFP
(Top View)
QO1 QO0 HSYNC VSYNC DE OGND ODCK OVCC CTL3 OCK_INV HS_DJTR GND VCC QE23 QE22 QE21 QE20 QE19 QE18 QE17 QE16 OVCC OGND QE15 QE14
QO2 QO3 QO4 QO5 QO6 QO7 OVCC OGND QO8 QO9 QO10 QO11 QO12 QO13 QO14 QO15 VCC GND QO16 QO17 QO18 QO19 QO20 QO21 QO22
QE13 QE12 QE11 QE10 QE9 QE8 OGND OVCC QE7 QE6 QE5 QE4 QE3 QE2 QE1 QE0 PDO# SCDT STAG_OUT VCC GND PIXS SDA PD# RESET#
OGND QO23 OVCC AGND RX2+ RX2- AVCC AGND AVCC RX1+ RX1- AGND AVCC AGND RX0+ RX0- AGND RXC+ RXC- AVCC EXT_RES PVCC PGND RESERVED SCL

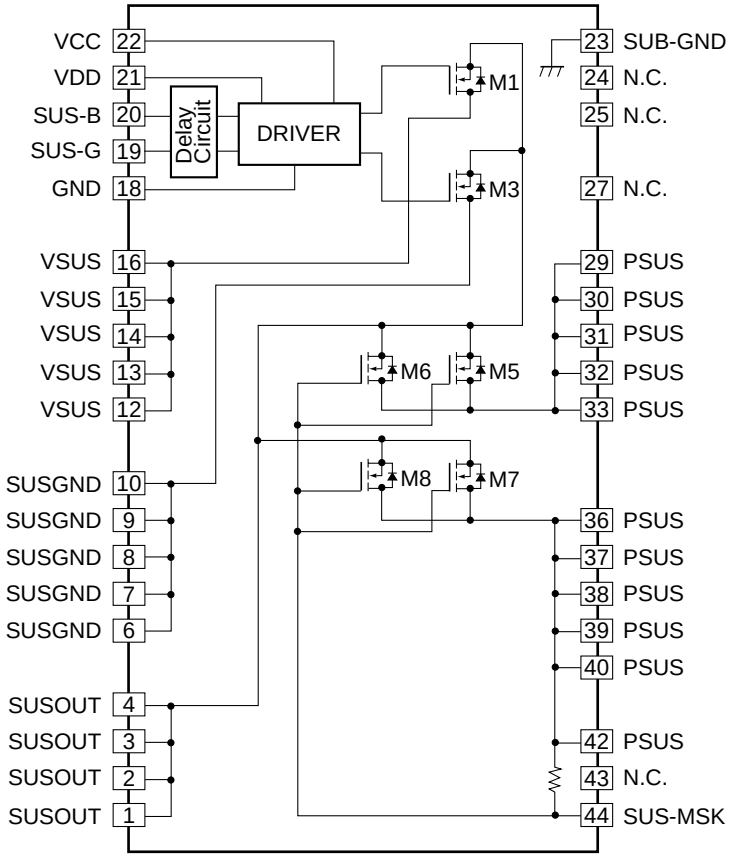
● Block Diagram



STK795-512 (50 X DRIVE ASSY: IC1203, IC1207)

PDP Mask Module IC

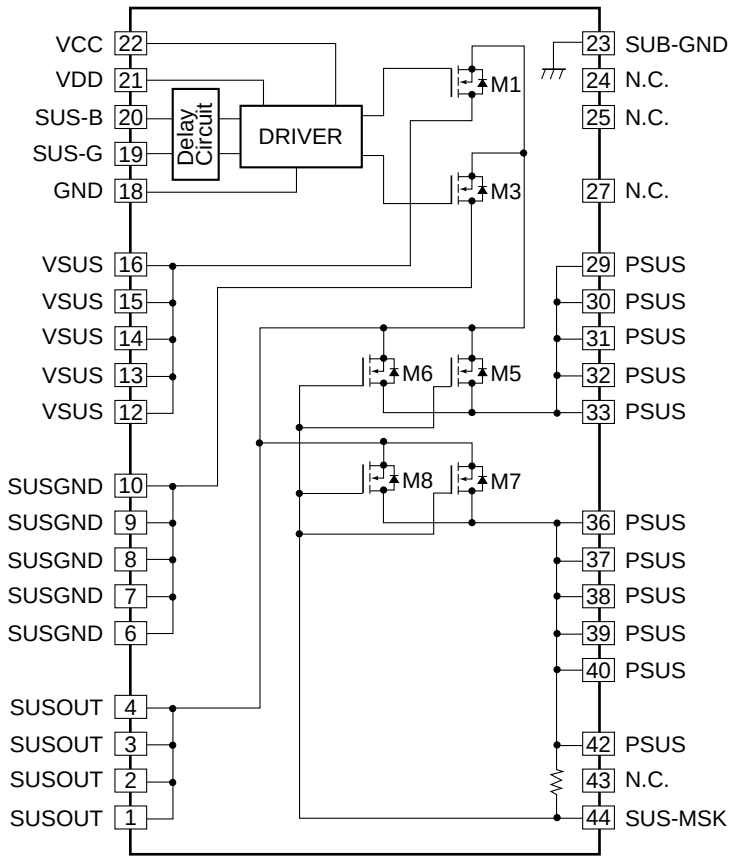
● Block Diagram



STK795-513 (50 Y DRIVE ASSY: IC2303, IC2307)

PDP Mask Module IC

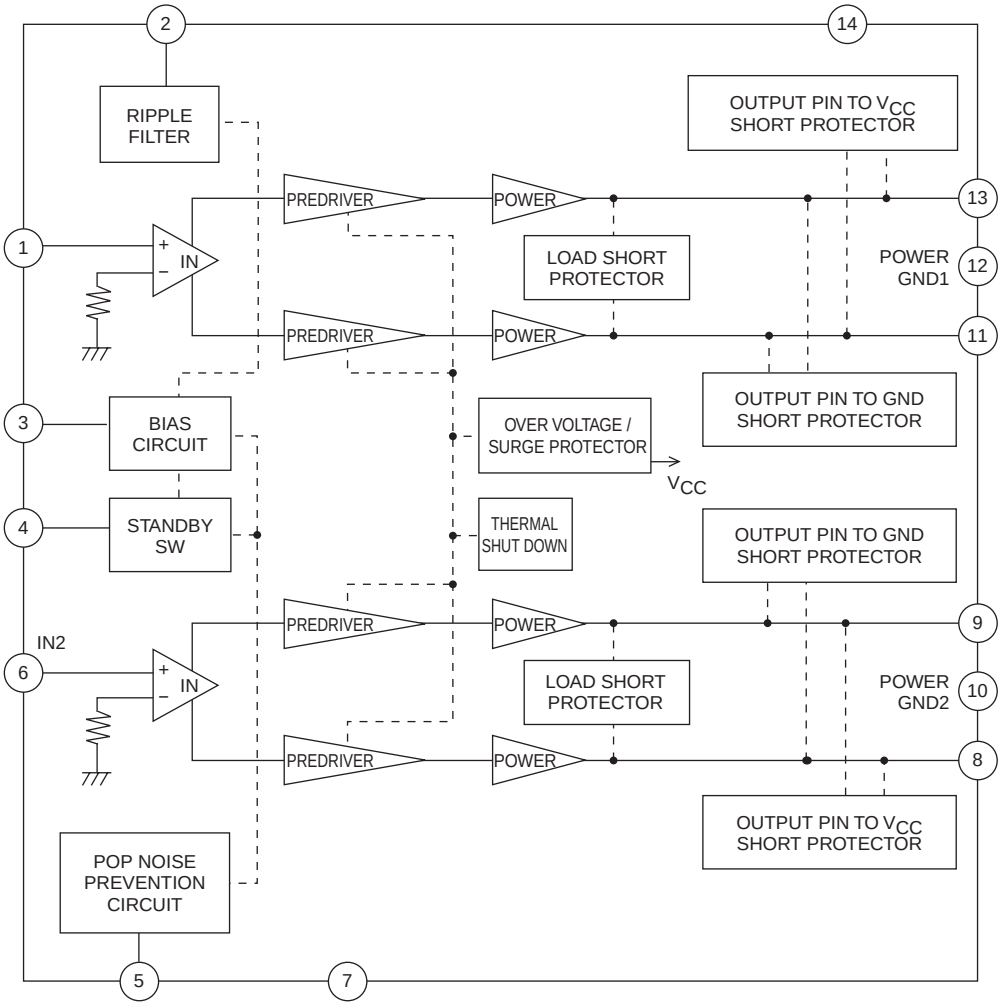
● Block Diagram



■ LA4625 (HD AUDIO ASSY: IC3504)

• 2ch BTL AF Power Amp IC

● Block Diagram



■ M30626FHPGP (DIGITAL VIDEO ASSY : IC5201)

• PDP UCOM

● **Pin Function (1/2)**

No.	Pin Name	Function	I/0	ACTIVE
1	VSUS	[D/A] Vofs power control	O	
2	VOFS	[D/A] Vofs power control	O	
3	TXD_IC4	3 serial communication with IC4MANTA - data transmission	O	
4	RXD_IC4	3 serial communication with IC4MANTA - data receive	I	
5	CLK_IC4	3 serial communication with IC4MANTA - clock output	O	
6	BYTE	(GND connection)	I	
7	CNVSS	Pin for processor mode setting (pull-down)	I	
8	NC	NC pin		
9	NC	NC pin		
10	RST_MD	Reset input	I	L
11	XOUT	Output for main clock	O	–
12	VSS	GND	–	–
13	XIN	Input for main clock	I	–
14	VCC1	Power supply = STB3.3V	–	–
15	NMI	(pull-up)	I	
16	REM_B	(Interruption) Remote control signal input (in the panel unit)	I	
17	KEY_B	(Interruption) Key signal input (in the panel unit)	I	
18	RST2	(Interruption) IC4 reset detection	I	L
19	HD_IN_B	HD signal existence distinction	I	L
20	PD_MUTE	Mute the power down output to the POWER SUPPLY Unit	O	L
21	PS_PD	PD signal in the POWER SUPPLY Unit	I	H
22	DCC_PD	PD signal of DC-DC converter	I	H
23	NC	NC pin		
24	NC	NC pin		
25	VD_IN	V. frequency count	I	L
26	EEPRST	EEPROM power SW	O	H
27	E_SCL	IIC clock output for EEPROM	O	
28	E_SDA	IIC data I/O for EEPROM	I/O	
29	TXD	Communication with flash ROM writer - data transmission	O	
30	RXD	Communication with flash ROM writer - data receive	I	
31	SCLK	Communication with flash ROM writer - clock input	I	
32	BUSY	Communication with flash ROM writer - busy output	O	
33	TXD0	UART communication with main UCOM (external PC) - data transmission	O	
34	RXD0	UART communication with main UCOM (external PC) - data receive	I	
35	NC	NC pin		
36	REQ_MD	Communication request to the main UCOM	O	H
37	PSW_D	Mute of DC-DC converter	O	H
38	WE_IC4	In IC4 (MANTA) rewriting, control for communication path switch	O	H
39	EPM	Setting pin for flash rewriting mode (pull-down)	I	
40	IC4_RST	IC4 forced reset	O	L
41	IC4_CE	Enable for IC4 communication	O	L
42	IC4_BUSY	Busy input for IC4 communication	I	H
43	REQ_IC4	Communication request from the IC4	I	H
44	CE	Setting pin for flash rewriting mode (pull-up)	I	
45	PSIZE	Panel size distinction	I	
46	B_SCL	IIC clock output for backup EEPROM	O	H
47	B_SDA	IIC DATA I/O for backup EEPROM	I/O	H
48	ADR_PD	PD signal of address junction	I	H
49	LED_G	Green LED control	O	L
50	LED_R	Red LED control	O	L

M30626FHPGP (DIGITAL VIDEO ASSY : IC5201)

• PDP UCOM

● Pin Function (2/2)

No.	Pin Name	Function	I/0	ACTIVE
51	DRV_OFF	Driving OFF	O	H
52	RELAY	Power ON control output	O	H
53	POWER	Power ON control input	I	H
54	MR_ST_B	MDR connection detection	I	L
55	OP_DET	Rear case open detection	I	
56	NC	NC pin		
57	PNL_MUTE	Panel mute	I	
58	DITHER	PC/VIDEO dither switch (panel module exclusive use)	I	
59	NC	NC pin		
60	VCC2	Power supply = STB 3.3V	–	–
61	PD_TRG	PD detection	I	L
62	VSS	GND	–	–
63	VH_PD	Vh power decrease PD	I	H
64	YDRV_PD	Y drive PD signal	I	H
65	YRES_PD	Y drive PD signal	I	H
66	YDCDC_PD	PD signal of Y drive DC-DC converter	I	H
67	IC5V_PD	5V power decrease PD	I	H
68	XSUS_PD	X drive PD signal	I	H
69	XDCDC_PD	PD signal of X drive DC-DC converter	I	H
70	XDRV_PD	X drive PD signal	I	H
71	NC	NC pin		
72	MR_AC	MR power monitor	I	H
73	AC_DET	AC power monitor at panel side (same signal as CST1)	I	L
74	DVI_MUTE	Mute of panel link output	O	H
75	A_MUTE	Audio mute	O	H
76	A_NG	Audio NG detection	I	L
77	A_SCL	IIC clock output for audio/others	O	L
78	A_SDA	IIC data I/O for audio/others	I/O	L
79	TRUBASS	TRUBASS ON/OFF	O	H
80	STB_SW	Standby setting of audio amp.	O	L
81	FOCUS	FOCUS ON/OFF	O	H
82	SRS	SRS ON/OFF	O	H
83	DDC_WP	DDCROM write protection	O	H
84	DVI_DET	DVI cable disconnection detection	I	H
85	RSTBTMDS	Reset detection of panel link receiver	I	L
86	L_SYNC	DE omission detection of the panel link	I	L
87	NC	NC pin		
88	NC	NC pin		
89	MASK1	[A/D] Mask display setting	I	
90	MAX_PLS2	[A/D] Brightness setting for panel module	I	
91	MAX_PLS1	[A/D] Brightness setting for panel module	I	
92	TEMP	[A/D] AD input for temperature sensor	I	
93	MODE	[A/D] Operation mode setting	I	
94	AVSS	GND for A/D input	–	–
95	MODEL	[A/D] CMX/HD/TV/WX distinction	I	
96	VREF	Reference voltage for A/D input	–	–
97	AVCC	Power supply for A/D input = STB3.3V	–	–
98	NC	NC pin		
99	NC	NC pin		
100	AMG_MD	Address emergency monitor	I	H

■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● **Pin Function (1/10)**

Ball No.	No.	Pin Name	Function
A1	1	BAI_6	A phase signal input of B video (sixth bit)
B1	2	BAI_5	A phase signal input of B video (fifth bit)
C1	3	BAI_4	A phase signal input of B video (fourth bit)
D1	4	NC	NC pin
E1	5	NC	NC pin
F1	6	BAI_3	A phase signal input of B video (fifth bit)
G1	7	BAI_2	A phase signal input of B video (fourth bit)
H1	8	FIELD	FIELD signal input
J1	9	XSUSB_12	X-Drive control signal output
K1	10	XSUSB_10	X-Drive control signal output
L1	11	XSUSB_4	X-Drive control signal output
M1	12	XSUSB_0	X-Drive control signal output
N1	13	XSUSA_10	X-Drive control signal output
P1	14	XSUSA_4	X-Drive control signal output
R1	15	XSUSA_2	X-Drive control signal output
T1	16	ADRS_0	Address control signal output
U1	17	AD6TXOUT3M	Address LVDS signal output
V1	18	AD6TXCLKOUTM	Address LVDS signal output
W1	19	AD6TXOUT2M	Address LVDS signal output
Y1	20	AD6TXOUT1M	Address LVDS signal output
AA1	21	AD6TXOUT0M	Address LVDS signal output
AB1	22	AD7TXOUT3M	Address LVDS signal output
AC1	23	AD7TXCLKOUTM	Address LVDS signal output
AD1	24	AD7TXOUT2M	Address LVDS signal output
AE1	25	AD7TXOUT1M	Address LVDS signal output
AF1	26	AD7TXOUT0M	Address LVDS signal output
AF2	27	AD7TXOUT0P	Address LVDS signal output
AF3	28	VSSLA	GND
AF4	29	AD3TXOUT3M	Address LVDS signal output
AF5	30	AD3TXCLKOUTM	Address LVDS signal output
AF6	31	AD3TXOUT2M	Address LVDS signal output
AF7	32	AD3TXOUT1M	Address LVDS signal output
AF8	33	AD3TXOUT0M	Address LVDS signal output
AF9	34	AD2TXOUT3M	Address LVDS signal output
AF10	35	AD2TXCLKOUTM	Address LVDS signal output
AF11	36	AD2TXOUT2M	Address LVDS signal output
AF12	37	AD2TXOUT1M	Address LVDS signal output
AF13	38	AD2TXOUT0M	Address LVDS signal output
AF14	39	AD1TXOUT3M	Address LVDS signal output
AF15	40	AD1TXCLKOUTM	Address LVDS signal output
AF16	41	AD1TXOUT2M	Address LVDS signal output
AF17	42	AD1TXOUT1M	Address LVDS signal output
AF18	43	AD1TXOUT0M	Address LVDS signal output
AF19	44	AD0TXOUT3M	Address LVDS signal output
AF20	45	AD0TXCLKOUTM	Address LVDS signal output
AF21	46	AD0TXOUT2M	Address LVDS signal output
AF22	47	AD0TXOUT1M	Address LVDS signal output
AF23	48	AD0TXOUT0M	Address LVDS signal output
AF24	49	VSSL15	GND
AF25	50	AD4TXOUT3P	Address LVDS signal output

■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● Pin Function (2/10)

Ball No.	No.	Pin Name	Function
AF26	51	AD4TXOUT3M	Address LVDS signal output
AE26	52	AD4TXCLKOUTM	Address LVDS signal output
AD26	53	AD4TXOUT2M	Address LVDS signal output
AC26	54	AD4TXOUT1M	Address LVDS signal output
AB26	55	AD4TXOUT0M	Address LVDS signal output
AA26	56	AD5TXOUT3M	Address LVDS signal output
Y26	57	AD5TXCLKOUTM	Address LVDS signal output
W26	58	AD5TXOUT2M	Address LVDS signal output
V26	59	AD5TXOUT1M	Address LVDS signal output
U26	60	AD5TXOUT0M	Address LVDS signal output
T26	61	SDIDBI_N	JTAG signal
R26	62	SDIJTAG	JTAG signal
P26	63	GPIO0_3	Microcomputer macro general-purpose port
N26	64	GPIO0_1	Microcomputer macro general-purpose port
M26	65	YSUSA_4	Y-Drive control signal output
L26	66	YSUSA_10	Y-Drive control signal output
K26	67	YSUSA_14	Y-Drive control signal output
J26	68	YSUSB_4	Y-Drive control signal output
H26	69	YSUSB_6	Y-Drive control signal output
G26	70	YSUSB_10	Y-Drive control signal output
F26	71	YSUSB_14	Y-Drive control signal output
E26	72	NC	NC pin
D26	73	NC	NC pin
C26	74	SCAN_10	Scan control signal output
B26	75	CSIOTXD	Communication with microcomputer
A26	76	CSRD_N	Communication with microcomputer
A25	77	CSCS_N0	Communication with microcomputer
A24	78	EXA16	Flash memory address bus
A23	79	EXA15	Flash memory address bus
A22	80	EXA14	Flash memory address bus
A21	81	EXA13	Flash memory address bus
A20	82	EXA12	Flash memory address bus
A19	83	EXA10	Flash memory address bus
A18	84	EXA7	Flash memory address bus
A17	85	EXA1	Flash memory address bus
A16	86	EXDIO_3	Flash memory data bus
A15	87	EXDIO_5	Flash memory data bus
A14	88	EXDIO_11	Flash memory data bus
A13	89	TRNSEND_O	NC pin
A12	90	RBI_5	B phase signal input of R video (fifth bit)
A11	91	RBI_0	B phase signal input of R video (0 bit)
A10	92	GBI_8	B phase signal input of G video (eighth bit)
A9	93	GBI_2	B phase signal input of G video (second bit)
A8	94	BBI_6	B phase signal input of B video (sixth bit)
A7	95	BBI_0	B phase signal input of B video (0 bit)
A6	96	VDI	VD signal input
A5	97	RAI_5	A phase signal input of R video (fifth bit)
A4	98	DCLKI	CLK input
A3	99	GAI_4	A phase signal input of G video (fourth bit)
A2	100	BAI_9	A phase signal input of B video (ninth bit)

PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

Pin Function (3/10)

Ball No.	No.	Pin Name	Function
B2	101	BAI_8	A phase signal input of B video (eighth bit)
C2	102	BAI_7	A phase signal input of B video (seventh bit)
D2	103	GND	GND
E2	104	NC	NC
F2	105	NC	NC
G2	106	BAI_1	A phase signal input of B video (first bit)
H2	107	XSUSB_15	X-Drive control signal output
J2	108	GND	GND
K2	109	XSUSB_9	X-Drive control signal output
L2	110	XSUSB_3	X-Drive control signal output
M2	111	XSUSA_15	X-Drive control signal output
N2	112	XSUSA_9	X-Drive control signal output
P2	113	GND	GND
R2	114	XSUSA_1	X-Drive control signal output
T2	115	TEST2	Test signal input (Not used)
U2	116	AD6TXOUT3P	Address LVDS signal output
V2	117	AD6TXCLKOUTP	Address LVDS signal output
W2	118	AD6TXOUT2P	Address LVDS signal output
Y2	119	AD6TXOUT1P	Address LVDS signal output
AA2	120	AD6TXOUT0P	Address LVDS signal output
AB2	121	AD7TXOUT3P	Address LVDS signal output
AC2	122	AD7TXCLKOUTP	Address LVDS signal output
AD2	123	AD7TXOUT2P	Address LVDS signal output
AE2	124	AD7TXOUT1P	Address LVDS signal output
AE3	125	VSSLA	GND
AE4	126	AD3TXOUT3P	Address LVDS signal output
AE5	127	AD3TXCLKOUTP	Address LVDS signal output
AE6	128	AD3TXOUT2P	Address LVDS signal output
AE7	129	AD3TXOUT1P	Address LVDS signal output
AE8	130	AD3TXOUT0P	Address LVDS signal output
AE9	131	AD2TXOUT3P	Address LVDS signal output
AE10	132	AD2TXCLKOUTP	Address LVDS signal output
AE11	133	AD2TXOUT2P	Address LVDS signal output
AE12	134	AD2TXOUT1P	Address LVDS signal output
AE13	135	AD2TXOUT0P	Address LVDS signal output
AE14	136	AD1TXOUT3P	Address LVDS signal output
AE15	137	AD1TXCLKOUTP	Address LVDS signal output
AE16	138	AD1TXOUT2P	Address LVDS signal output
AE17	139	AD1TXOUT1P	Address LVDS signal output
AE18	140	AD1TXOUT0P	Address LVDS signal output
AE19	141	AD0TXOUT3P	Address LVDS signal output
AE20	142	AD0TXCLKOUTP	Address LVDS signal output
AE21	143	AD0TXOUT2P	Address LVDS signal output
AE22	144	AD0TXOUT1P	Address LVDS signal output
AE23	145	AD0TXOUT0P	Address LVDS signal output
AE24	146	VSSL15	GND
AE25	147	AD4TXCLKOUTP	Address LVDS signal output
AD25	148	AD4TXOUT2P	Address LVDS signal output
AC25	149	AD4TXOUT1P	Address LVDS signal output
AB25	150	AD4TXOUT0P	Address LVDS signal output

PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● Pin Function (4/10)

Ball No.	No.	Pin Name	Function
AA25	151	AD5TXOUT3P	Address LVDS signal output
Y25	152	AD5TXCLKOUTP	Address LVDS signal output
W25	153	AD5TXOUT2P	Address LVDS signal output
V25	154	AD5TXOUT1P	Address LVDS signal output
U25	155	AD5TXOUT0P	Address LVDS signal output
T25	156	SDITRST_N	JTAG signal
R25	157	RESETX	Reset input
P25	158	GND	GND
N25	159	GPIO0_0	Microcomputer macro general-purpose port
M25	160	YSUSA_5	Y-Drive control signal output
L25	161	YSUSA_11	Y-Drive control signal output
K25	162	YSUSA_15	Y-Drive control signal output
J25	163	GND	GND
H25	164	YSUSB_7	Y-Drive control signal output
G25	165	YSUSB_11	Y-Drive control signal output
F25	166	NC	NC pin
E25	167	NC	NC pin
D25	168	GND	GND
C25	169	SCAN_11	Scan control signal output
B25	170	CSIORXD	Communication with UCOM
B24	171	CSIOSCKI	Communication with UCOM
B23	172	UARTTXD	Communication with UCOM
B22	173	UARTRXD	Communication with UCOM
B21	174	CSWR_N0	Communication with UCOM
B20	175	GND	GND
B19	176	EXA9	Flash memory address bus
B18	177	EXA6	Flash memory address bus
B17	178	EXA0	Flash memory address bus
B16	179	GND	GND
B15	180	EXDIO_6	Flash memory data bus
B14	181	EXDIO_12	Flash memory data bus
B13	182	RBI_9	B phase signal input of R video (ninth bit)
B12	183	RBI_4	B phase signal input of R video (fourth bit)
B11	184	GND	GND
B10	185	GBI_7	B phase signal input of G video (seventh bit)
B9	186	GBI_1	B phase signal input of G video (first bit)
B8	187	BBI_5	B phase signal input of B video (fifth bit)
B7	188	GND	GND
B6	189	HDI	HD signal input
B5	190	RAI_4	A phase signal input of R video (fourth bit)
B4	191	GAI_9	A phase signal input of G video (ninth bit)
B3	192	GAI_3	A phase signal input of G video (third bit)
C3	193	GAI_2	A phase signal input of G video (second bit)
D3	194	VDDD33	3.3V power supply
E3	195	GAI_1	A phase signal input of G video (first bit)
F3	196	GAI_0	A phase signal input of G video (0 bit)
G3	197	NC	NC pin
H3	198	XSUSB_14	X-Drive control signal output
J3	199	VDDIO	3.3V power supply
K3	200	XSUSB_8	X-Drive control signal output

■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● Pin Function (5/10)

Ball No.	No.	Pin Name	Function
L3	201	XSUSB_2	X-Drive control signal output
M3	202	XSUSA_14	X-Drive control signal output
N3	203	XSUSA_8	X-Drive control signal output
P3	204	VDDIO	3.3V power supply
R3	205	XSUSA_0	X-Drive control signal output
T3	206	TEST1	Test signal input (Not used)
U3	207	VSSLA	GND
V3	208	VSSLA	GND
W3	209	VSSLA	GND
Y3	210	VSSLA	GND
AA3	211	VSSLA	GND
AB3	212	VSSLA	GND
AC3	213	VSSLA	GND
AD3	214	VSSLA	GND
AD4	215	VSSLA	GND
AD5	216	VSSLA	GND
AD6	217	VSSLA	GND
AD7	218	VSSLA	GND
AD8	219	VSSLA	GND
AD9	220	VSSLA	GND
AD10	221	VSSLA	GND
AD11	222	VSSLA	GND
AD12	223	VSSLA	GND
AD13	224	VSSLA	GND
AD14	225	VSSLA	GND
AD15	226	VSSLA	GND
AD16	227	VSSLA	GND
AD17	228	VSSLA	GND
AD18	229	VSSLA	GND
AD19	230	VSSLA	GND
AD20	231	VSSLA	GND
AD21	232	VSSLA	GND
AD22	233	VSSLA	GND
AD23	234	VSSLA	GND
AD24	235	VSSLA	GND
AC24	236	VSSLA	GND
AB24	237	VSSLA	GND
AA24	238	VSSLA	GND
Y24	239	VSSLA	GND
W24	240	VSSLA	GND
V24	241	VSSLA	GND
U24	242	VSSLA	GND
T24	243	SDITDO	JTAG signal
R24	244	GPIO0_7	Microcomputer macro general-purpose port
P24	245	VDDIO	3.3V power supply
N24	246	YSUSA_0	Y-Drive control signal output
M24	247	YSUSA_6	Y-Drive control signal output
L24	248	YSUSA_12	Y-Drive control signal output
K24	249	YSUSB_0	Y-Drive control signal output
J24	250	VDDD33	3.3V power supply

■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● Pin Function (6/10)

Ball No.	No.	Pin Name	Function
H24	251	YSUSB_8	Y-Drive control signal output
G24	252	NC	NC pin
F24	253	YSUSB_15	Y-Drive control signal output
E24	254	SCAN_3	Scan control signal output
D24	255	VDDD33	3.3V power supply
C24	256	SCAN_12	Scan control signal output
C23	257	SCAN_13	Scan control signal output
C22	258	SCAN_14	Scan control signal output
C21	259	SCAN_15	Scan control signal output
C20	260	VDDIO	3.3V power supply
C19	261	EXA8	Flash memory address bus
C18	262	EXA5	Flash memory address bus
C17	263	CLKD	CLK input (60MHz)
C16	264	VDDIO	3.3V power supply
C15	265	EXDIO_7	Flash memory data bus
C14	266	EXDIO_13	Flash memory data bus
C13	267	RBI_8	B phase signal input of R video (eighth bit)
C12	268	RBI_3	B phase signal input of R video (third bit)
C11	269	VDDIO	3.3V power supply
C10	270	GBI_6	B phase signal input of G video (sixth bit)
C9	271	GBI_0	B phase signal input of G video (0 bit)
C8	272	BBI_4	B phase signal input of B video (fourth bit)
C7	273	VDDIO	3.3V power supply
C6	274	RAI_9	A phase signal input of R video (ninth bit)
C5	275	RAI_3	A phase signal input of R video (third bit)
C4	276	GAI_8	A phase signal input of G video (eighth bit)
D4	277	GAI_7	A phase signal input of G video (seventh bit)
E4	278	GAI_6	A phase signal input of G video (sixth bit)
F4	279	GAI_5	A phase signal input of G video (fifth bit)
G4	280	VCMP	GND
H4	281	XSUSB_13	X-Drive control signal output
J4	282	XSUSB_11	X-Drive control signal output
K4	283	XSUSB_7	X-Drive control signal output
L4	284	XSUSB_1	X-Drive control signal output
M4	285	XSUSA_13	X-Drive control signal output
N4	286	XSUSA_7	X-Drive control signal output
P4	287	XSUSA_3	X-Drive control signal output
R4	288	ADRS_3	Address control signal output
T4	289	TESTAN	Test signal input (Not used)
U4	290	VDDLA	3.3V power supply
V4	291	VDDLA	3.3V power supply
W4	292	VDDLA	3.3V power supply
Y4	293	VDDLA	3.3V power supply
AA4	294	VDDLA	3.3V power supply
AB4	295	VDDLA	3.3V power supply
AC4	296	VDDLA	3.3V power supply
AC5	297	VDDLA	3.3V power supply
AC6	298	VDDLA	3.3V power supply
AC7	299	VDDLA	3.3V power supply
AC8	300	VDDLA	3.3V power supply

PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● Pin Function (7/10)

Ball No.	No.	Pin Name	Function
AC8	300	VDDLA	3.3V power supply
AC9	301	VDDLA	3.3V power supply
AC10	302	VDDLA	3.3V power supply
AC11	303	VDDLA	3.3V power supply
AC12	304	VDDLA	3.3V power supply
AC13	305	VDDLA	3.3V power supply
AC14	306	VDDBG	3.3V power supply
AC15	307	VDDLA	3.3V power supply
AC16	308	VDDLA	3.3V power supply
AC17	309	VDDLA	3.3V power supply
AC18	310	VDDLA	3.3V power supply
AC19	311	VDDLA	3.3V power supply
AC20	312	VDDLA	3.3V power supply
AC21	313	VDDLA	3.3V power supply
AC22	314	VDDLA	3.3V power supply
AC23	315	VDDLA	3.3V power supply
AB23	316	VDDLA	3.3V power supplyv
AA23	317	VDDLA	3.3V power supply
Y23	318	VDDLA	3.3V power supply
W23	319	VDDLA	3.3V power supply
V23	320	VDDLA	3.3V power supply
U23	321	VDDLA	3.3V power supply
T23	322	SDITDI	JTAG signal
R23	323	GPIO0_6	Microcomputer macro general-purpose port
P23	324	GPIO0_2	Microcomputer macro general-purpose port
N23	325	YSUSA_1	Y-Drive control signal output
M23	326	YSUSA_7	Y-Drive control signal output
L23	327	YSUSA_13	Y-Drive control signal output
K23	328	YSUSB_1	Y-Drive control signal output
J23	329	YSUSB_5	Y-Drive control signal output
H23	330	YSUSB_9	Y-Drive control signal output
G23	331	VCMP	GND
F23	332	SCAN_0	Scan control signal output
E23	333	SCAN_4	Scan control signal output
D23	334	SCAN_7	Scan control signal output
D22	335	SCAN_8	Scan control signal output
D21	336	SCAN_9	Scan control signal output
D20	337	EXA11	Flash memory address bus
D19	338	EXA19	Flash memory address bus
D18	339	EXA4	Flash memory address bus
D17	340	EXDIO_0	Flash memory data bus
D16	341	EXDIO_4	Flash memory data bus
D15	342	EXDIO_8	Flash memory data bus
D14	343	EXDIO_14	Flash memory data bus
D13	344	RBI_7	B phase signal input of R video (seventh bit)
D12	345	RBI_2	B phase signal input of R video (second bit)
D11	346	GBI_9	B phase signal input of G video (ninth bit)
D10	347	GBI_5	B phase signal input of G video (fifth bit)
D9	348	BBI_9	B phase signal input of B video (ninth bit)
D8	349	BBI_3	B phase signal input of B video (tenth bit)

■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

● Pin Function (8/10)

Ball No.	No.	Pin Name	Function
D7	350	DEI	DE signal input
D6	351	RAI_8	A phase signal input of R video (eighth bit)
D5	352	RAI_2	A phase signal input of R video (second bit)
E5	353	RAI_1	A phase signal input of R video (first bit)
F5	354	RAI_0	A phase signal input of R video (0 bit)
G5	355	BAI_0	A phase signal input of B video (0 bit)
H5	356	VSS15	GND
J5	357	VDDHR	3.3V power supply
K5	358	XSUSB_6	X-Drive control signal output
L5	359	VSSD15	GND
M5	360	XSUSA_12	X-Drive control signal output
N5	361	XSUSA_6	X-Drive control signal output
P5	362	VSS15	GND
R5	363	ADRS_2	Address control signal output
T5	364	TESTBN	Test signal input (Not used)
U5	365	VSSL15	GND
V5	366	VSSLA	GND
W5	367	VSSLA	GND
Y5	368	VSSL15	GND
AA5	369	VDDLP	3.3V power supply
AB5	370	VSSL15	GND
AB6	371	VSSLA	GND
AB7	372	VSSLA	GND
AB8	373	VSSL15	GND
AB9	374	VSSLA	GND
AB10	375	VSSLA	GND
AB11	376	VSSL15	GND
AB12	377	VSSLA	GND
AB13	378	VSSLA	GND
AB14	379	REFRIN	Reference current generation
AB15	380	VSSBG	GND
AB16	381	VSSL15	GND
AB17	382	VSSLA	GND
AB18	383	VSSLA	GND
AB19	384	VSSL15	GND
AB20	385	VSSLA	GND
AB21	386	VSSLA	GND
AB22	387	VSSLA	GND
AA22	388	VDDLA	3.3V power supply
Y22	389	VSSL15	GND
W22	390	VSSLA	GND
V22	391	VSSLA	GND
U22	392	VSSL15	GND
T22	393	SDITMS	JTAG signal
R22	394	GPIO0_5	Microcomputer macro general-purpose port
P22	395	VSS15	GND
N22	396	YSUSA_2	Y-Drive control signal output
M22	397	YSUSA_8	Y-Drive control signal output
L22	398	VSSD15	GND
K22	399	YSUSB_2	Y-Drive control signal output

PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

Pin Function (9/10)

Ball No.	No.	Pin Name	Function
J22	400	VDDHL	3.3V power supply
H22	401	VSSD15	GND
G22	402	YSUSB_12	Y-Drive control signal output
F22	403	SCAN_1	Scan control signal output
E22	404	SCAN_5	Scan control signal output
E21	405	SCAN_6	Scan control signal output
E20	406	VSS15	GND
E19	407	EXA18	Flash memory address bus
E18	408	EXA3	Flash memory address bus
E17	409	EXDIO_1	Flash memory data bus
E16	410	VSS15	GND
E15	411	EXDIO_9	Flash memory data bus
E14	412	EXDIO_15	Flash memory data bus
E13	413	RBI_6	B phase signal input of R video (sixth bit)
E12	414	CLKS	CLK input (85MHz)
E11	415	VSS15	GND
E10	416	GBI_4	B phase signal input of G video (fourth bit)
E8	418	BBI_2	B phase signal input of B video (second bit)
E9	417	BBI_8	B phase signal input of B video (eighth bit)
E7	419	VSS15	GND
E6	420	RAI_7	A phase signal input of R video (seventh bit)
F6	421	RAI_6	A phase signal input of R video (sixth bit)
G6	422	APL_DT	APL value trigger input
H6	423	VDD15	1.5V power supply
J6	424	VBB	VBB power monitor in the DRAM
K6	425	XSUSB_5	X-Drive control signal output
L6	426	VDDD15	1.5V power supply
M6	427	XSUSA_11	X-Drive control signal output
N6	428	XSUSA_5	X-Drive control signal output
P6	429	VDD15	1.5V power supply
R6	430	ADRS_1	Address control signal output
T6	431	TESTCN	Test signal input (Not used)
U6	432	VDDL15	1.5V power supply
V6	433	VDDLA	3.3V power supply
W6	434	VDDLA	3.3V power supply
Y6	435	VDDL15	1.5V power supply
AA6	436	VDDLA	3.3V power supply
AA7	437	VDDLA	3.3V power supply
AA8	438	VDDL15	1.5V power supply
AA9	439	VDDLA	3.3V power supply
AA10	440	VDDLA	3.3V power supply
AA11	441	VDDL15	1.5V power supply
AA12	442	VDDLA	3.3V power supply
AA13	443	VDDLA	3.3V power supply
AA14	444	VDDLA	3.3V power supply
AA15	445	VDDLA	3.3V power supply
AA16	446	VDDL15	1.5V power supply
AA17	447	VDDLA	3.3V power supply
AA18	448	VDDLA	3.3V power supply
AA19	449	VDDL15	1.5V power supply

■ PD5856A (DIGITAL VIDEO ASSY : IC5401)

• PDP ASIC IC4

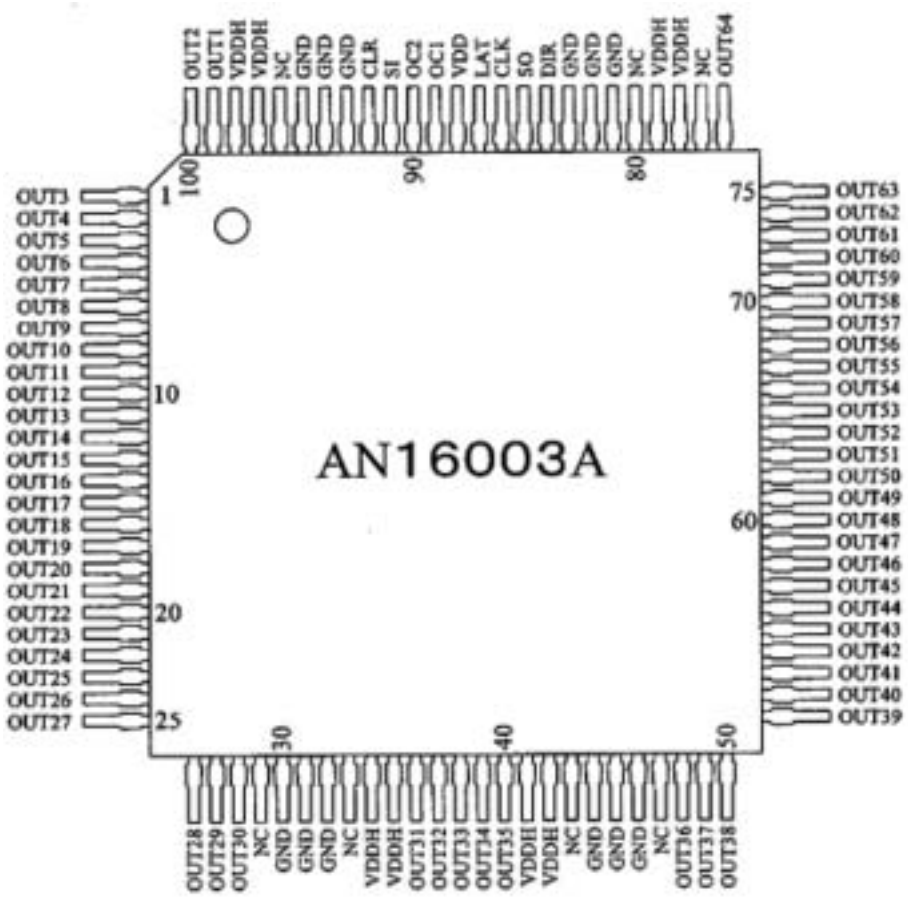
● Pin Function (10/10)

Ball No.	No.	Pin Name	Function
AA20	450	VDDLA	3.3V power supply
AA21	451	VDDLA	3.3V power supply
Y21	452	VDDL15	1.5V power supply
W21	453	VDDLA	3.3V power supply
V21	454	VDDLA	3.3V power supply
U21	455	VDDL15	1.5V power supply
T21	456	SDITCK	JTAG signal
R21	457	GPIO0_4	Microcomputer macro general-purpose port
P21	458	VDD15	1.5V power supply
N21	459	YSUSA_3	Y-Drive control signal output
M21	460	YSUSA_9	Y-Drive control signal output
L21	461	VDDD15	1.5V power supply
K21	462	YSUSB_3	Y-Drive control signal output
J21	463	VBB	VBB power monitor in the DRAM
H21	464	VDDD15	1.5V power supply
G21	465	YSUSB_13	Y-Drive control signal output
F21	466	SCAN_2	Scan control signal output
F20	467	VDD15	1.5V power supply
F19	468	EXA17	Flash memory address bus
F18	469	EXA2	Flash memory address bus
F17	470	EXDIO_2	Flash memory data bus
F16	471	VDD15	1.5V power supply
F15	472	EXDIO_10	Flash memory data bus
F14	473	TRNSEND_I	NC pin
F13	474	VDD15	1.5V power supply
F12	475	RBI_1	B phase signal input of R video (first bit)
F11	476	VDD15	1.5V power supply
F10	477	GBI_3	B phase signal input of G video (third bit)
F9	478	BBI_7	B phase signal input of B video (seventh bit)
F8	479	BBI_1	B phase signal input of B video (first bit)
F7	480	VDD15	1.5V power supply

■ AN16003A-K (50 SCAN A ASSY : IC3001 - IC3006)
(50 SCAN B ASSY : IC3201 - IC3206)

Plasma Display Panel IC

● **Pin Arrangement (Top view)**


AN16003A
OUT2 OUT1 VDDH VDDH NC GND GND GND CLR SI OC2 OC1 VDD LAT CLK SO DIR GND GND GND NC VDDH VDDH NC OUT64
OUT3 OUT4 OUT5 OUT6 OUT7 OUT8 OUT9 OUT10 OUT11 OUT12 OUT13 OUT14 OUT15 OUT16 OUT17 OUT18 OUT19 OUT20 OUT21 OUT22 OUT23 OUT24 OUT25 OUT26 OUT27
OUT63 OUT62 OUT61 OUT60 OUT59 OUT58 OUT57 OUT56 OUT55 OUT54 OUT53 OUT52 OUT51 OUT50 OUT49 OUT48 OUT47 OUT46 OUT45 OUT44 OUT43 OUT42 OUT41 OUT40 OUT39
OUT28 OUT29 OUT30 NC GND GND GND NC VDDH VDDH OUT31 OUT32 OUT33 OUT34 OUT35 VDDH VDDH NC GND GND GND NC OUT36 OUT37 OUT38
1
10
20
25
30
40
50
60
70
75
80
90
100

■ AN16003A-K (50 SCAN A ASSY : IC3001 - IC3006)
(50 SCAN B ASSY : IC3201 - IC3206)

Plasma Display Panel IC

● Pin Function (1/3)

Pin No.	Pin Name	Type	Discription
1	OUT3	Output	High-voltage push-pull output pin
2	OUT4		
3	OUT5		
4	OUT6		
5	OUT7		
6	OUT8		
7	OUT9		
8	OUT10		
9	OUT11		
10	OUT12		
11	OUT13		
12	OUT14		
13	OUT15		
14	OUT16		
15	OUT17		
16	OUT18		
17	OUT19		
18	OUT20		
19	OUT21		
20	OUT22		
21	OUT23		
22	OUT24		
23	OUT25		
24	OUT26		
25	OUT27		
26	OUT28		
27	OUT29		
28	OUT30		
29	N.C	-	Not connected
30	GND	Ground	GND pin
31	GND	Ground	GND pin
32	GND	Ground	GND pin
33	N.C	-	Not connected
34	V_{DDH}	Supply	High-voltage circuit supply pin
35	V_{DDH}	Supply	High-voltage circuit supply pin
36	OUT31	Output	High-voltage push-pull output pin
37	OUT32		
38	OUT33		
39	OUT34		
40	OUT35		
41	V_{DDH}	Supply	High-voltage circuit supply pin
42	V_{DDH}	Supply	High-voltage circuit supply pin
43	N.C	-	Not connected
44	GND	Ground	GND pin
45	GND	Ground	GND pin
46	GND	Ground	GND pin
47	N.C	-	Not connected
48	OUT36	Output	High-voltage push-pull output pin
49	OUT37		
50	OUT38		

■ AN16003A-K (50 SCAN A ASSY : IC3001 - IC3006) (50 SCAN B ASSY : IC3201 - IC3206)

Plasma Display Panel IC

● Pin Function (2/3)

Pin No.	Pin Name	Type	Discription
51	OUT39	Output	High-voltage push-pull output pin
52	OUT40		
53	OUT41		
54	OUT42		
55	OUT43		
56	OUT44		
57	OUT45		
58	OUT46		
59	OUT47		
60	OUT48		
61	OUT49		
62	OUT50		
63	OUT51		
64	OUT52		
65	OUT53		
66	OUT54		
67	OUT55		
68	OUT56		
69	OUT57		
70	OUT58		
71	OUT59		
72	OUT60		
73	OUT61		
74	OUT62		
75	OUT63		
76	OUT64		
77	N.C	-	Not connected
78	V_{DDH}	Supply	High-voltage circuit supply pin
79	V_{DDH}	Supply	High-voltage circuit supply pin
80	N.C	-	Not connected
81	GND	Ground	GND pin
82	GND	Ground	GND pin
83	GND	Ground	GND pin
84	DIR	Input	Setup pin of sift register sift direction L: Shift into reverse (SO → SI) H: Shift forward (SI → SO)
85	SO	Input/Output	Serial data input/output pin
86	CLK	Input	Serial clock input pin Fetch SI or SO data to sift register by CLK rise edge
87	LAT	Input	LAT data input pin L: Transfer shft register data to output latch H: Hold data to output latch
88	VDD	Supply	Logic supply pin
89	OC1	Input	Output control pin Control output according to the right truth value table
90	OC2		

OC1	OC2	OUT
L	L	ALL HiZ
L	H	DATA
H	L	ALL L
H	H	ALL H

■ AN16003A-K (50 SCAN A ASSY : IC3001 - IC3006) (50 SCAN B ASSY : IC3201 - IC3206)

Plasma Display Panel IC

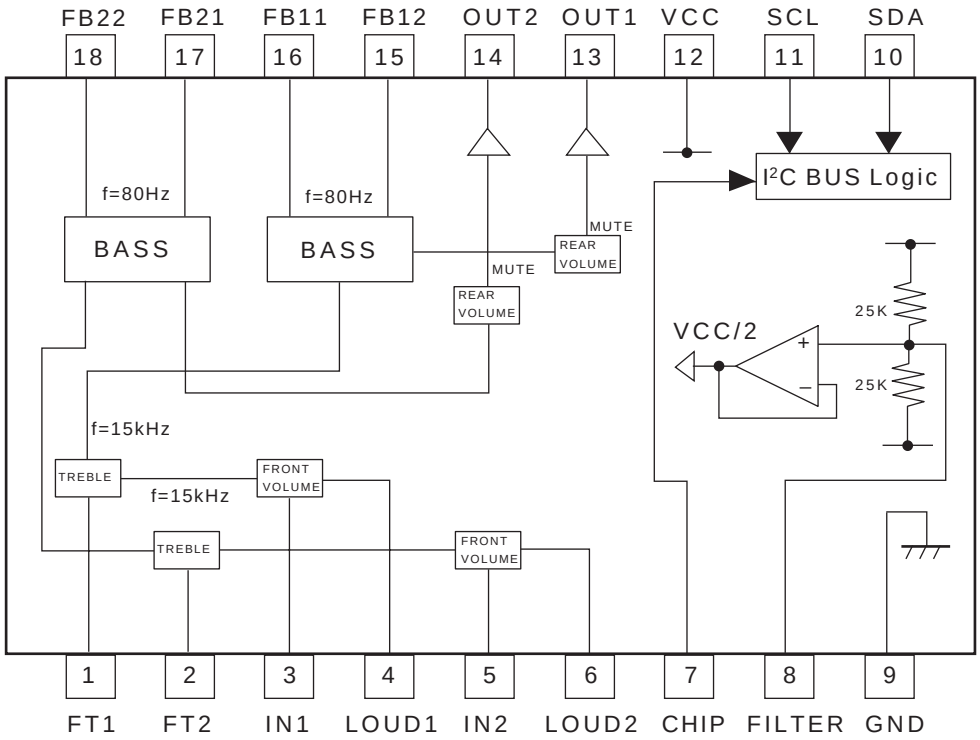
● Pin Function (3/3)

Pin No.	Pin Name	Type	Discription
91	SI	Input/Output	Serial data input/output pin
92	CLK	Input	All output reset pin CLK pin: L → Normal operation CLK pin: H → All output High
93	GND	Ground	GND pin
94	GND	Ground	GND pin
95	GND	Ground	GND pin
96	N.C	-	Not connected
97	V_{DDH}	Supply	High-voltage circuit supply pin
98	V_{DDH}	Supply	High-voltage circuit supply pin
99	OUT1	Output	High-voltage push-pull output pin
100	OUT2	Output	High-voltage push-pull output pin

■ BD3869AS (HD AUDIO ASSY : IC3502)

• Audio sound controller

● Block Diagram



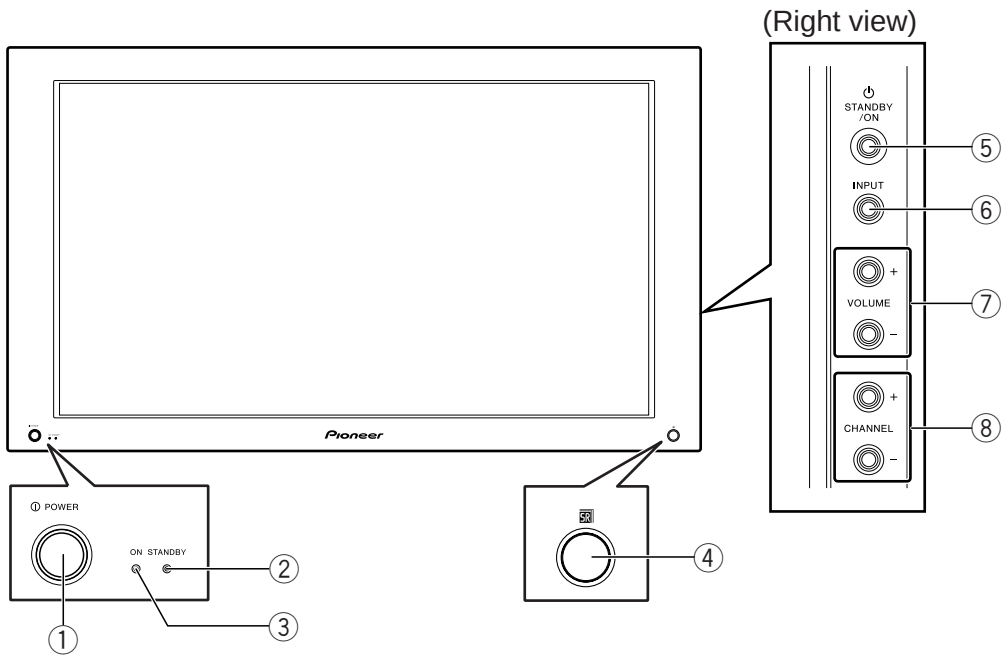
● Pin Function

No.	Pin Name	Function	Pin Description
1	FT1	CH1 Treble Filter Setting Pin	A pin for setting Treble frequency characteristic
2	FT2	CH2 Treble Filter Setting Pin	
3	IN1	CH1 Input Pin	A pin for Inputting sound signal to main volume
4	LOUD1	CH1 Loudness Filter Setting Pin	A pin for setting the loudness frequency characteristics and gain
5	IN2	CH2 Input Pin	A pin for Inputting sound signal to main volume
6	LOUD2	CH2 Loudness Filter Setting Pin	A pin for setting the loudness frequency characteristics and gain
7	CHIP	Chip Select Pin	Terminal of Slave address select of I^2C Bus
8	FILTER	1/2 VCC Pin	1/2 VCC. Voltage for power supply of signal system
9	GND	Ground pin	A ground pin
10	SDA	I^2C Communication Data Pin	Terminal of SDA of I^2C bus. ACKNOWLEDGE signal is outputted. Data terminal
11	SCL	I^2C Communication Data Pin	Terminal of SCL of I^2C bus. Clock terminal
12	VCC	Power Supply Pin	Power Supply Pin
13	OUT1	CH1 Output Pin	A pin for outputting a sound signal. Connect this pin to a rear stage circuit through a coupling capacitor
14	OUT2	CH2 Output Pin	
15	FB12	CH1 Bass Filter Setting Pin	A pin for setting Bass frequency characteristic and gain
16	FB11	CH1 Bass Filter Setting Pin	
17	FB21	CH2 Bass Filter Setting Pin	
18	FB22	CH2 Bass Filter Setting Pin	

8. PANEL FACILITIES AND SPECIFICATIONS

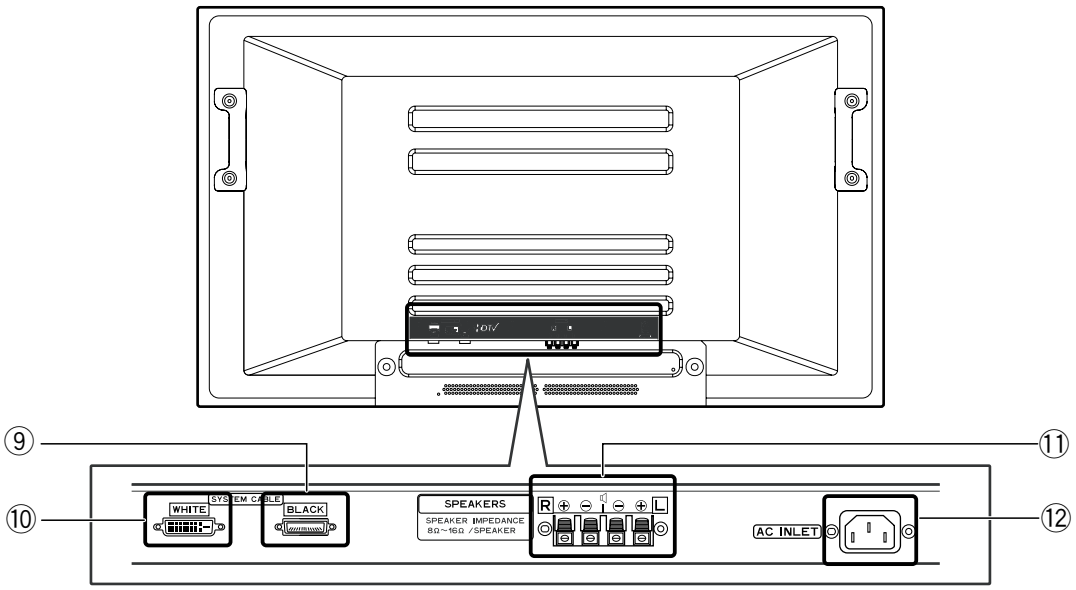
■ PLASMA DISPLAY (PDP-504PU, PDP-504PE)

• Front view



① POWER button
② STANDBY indicator
③ POWER ON indicator
④ Remote control sensor
⑤ STANDBY/ON button
⑥ INPUT button
⑦ VOLUME +/– buttons
⑧ CHANNEL +/– buttons

• Rear view

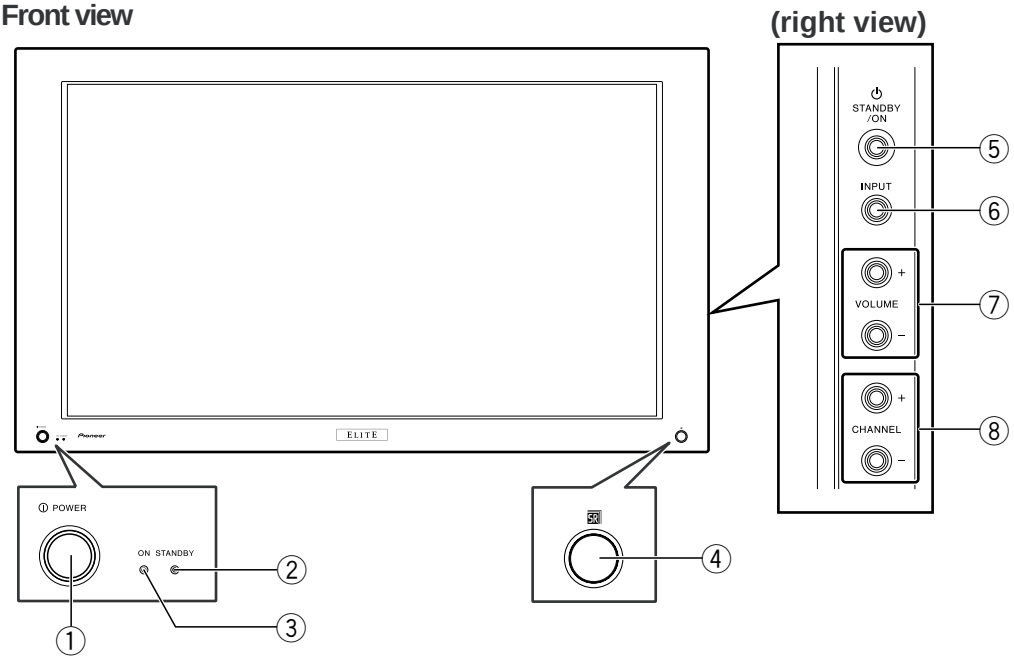


The terminals have faced downward.

⑨ SYSTEM CABLE terminal (BLACK)
⑩ SYSTEM CABLE terminal (WHITE)
⑪ SPEAKER (right/left) terminals
⑫ AC INLET terminal

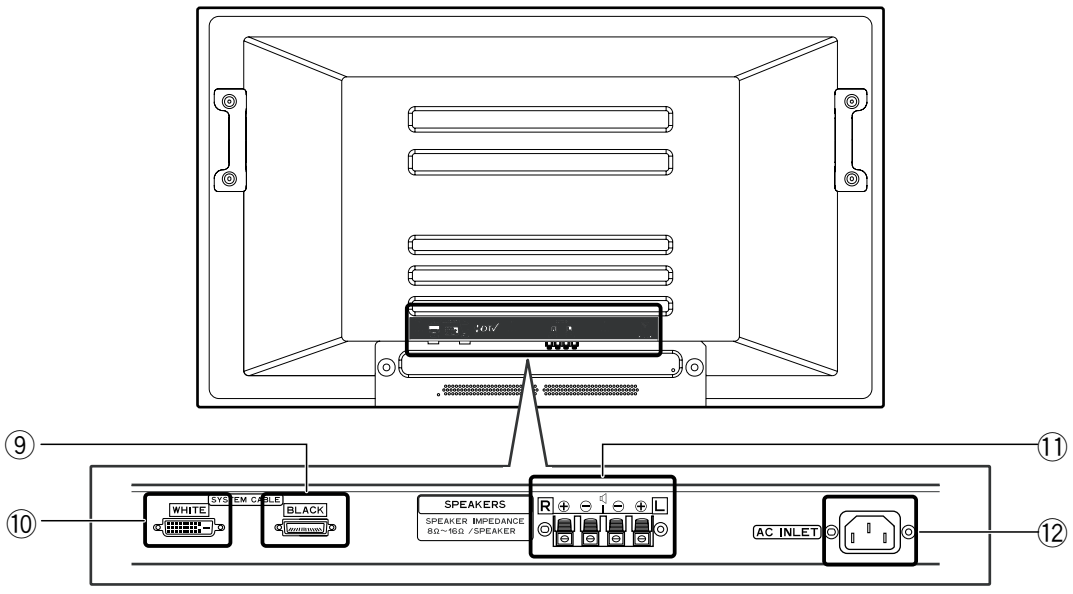
■ PLASMA DISPLAY (PRO-504PU)

• Front view



① POWER button
② STANDBY indicator
③ POWER ON indicator
④ Remote control sensor
⑤ STANDBY/ON button
⑥ INPUT button
⑦ VOLUME +/– buttons
⑧ CHANNEL +/– buttons

• Rear view



The terminals have faced downward.

⑨ SYSTEM CABLE terminal (BLACK)
⑩ SYSTEM CABLE terminal (WHITE)
⑪ SPEAKER (right/left) terminals
⑫ AC INLET terminal